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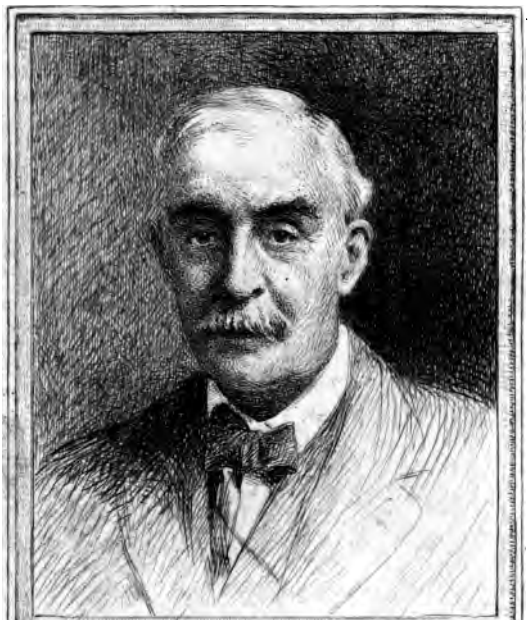

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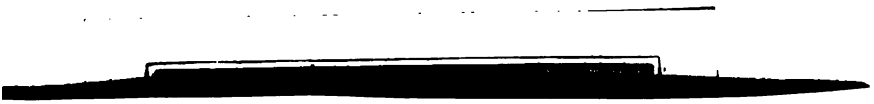

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CAUSALITY.

CAUSALITY:

OR THE

PHILOSOPHY OF LAW

INVESTIGATED.

BY THE

REV. GEORGE JAMIESON, B.D.,

OF OLD MACHAR.

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"TUM DEMUM SCIMUS CUM CAUSAM COGNOSCIMUS."

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PREFACE TO THE SECOND EDITION.

THE *a priori* School of Philosophy accepts "the facts given in consciousness," as the *inherent data* of mind. Hence, no solution as to the origin of these data is possible. Its fundamental principles of necessity lie unexplored: it defies a scientific Psychology: it marks MYSTERY on its very portal.

The *a posteriori* School equally accepts said facts; but only to trace them, if possible, to their cause. It regards all the states of mind as phenomena resulting from a constructed causality, and its effort is, by sound induction, to find what said causality is.

The first and the fundamental facts of mind (apart from a mere sensation of bodily states) are obviously those of Perception. It behoves us, therefore, first to account for our *percepts*. Accounting for these will help considerably to find an origin for our *concepts*. If we can account for our concepts, it will not be thought extravagant if we attempt to expound the *how* of "necessary truths," and the phenomena of Reason generally, and of Morals. Our maxim is to proceed from admitted principles—principles that are defined, and under an accumulation of facts to deduce their law of operation. The difficulty, of course, will always be where the facts are not agreed upon.

After years of relaxation from the special study of Philosophy —years during which the no less profound, but still more momentous questions of Theology, have been our ever-present and peculiar pursuit, we return to a re-examination of our position in respect of a true Philosophy, as the best handmaid of a sound Theology; and, as preliminary and preparatory to the publication of a thesis in Theology, we have resolved to revise and reproduce our views in Philosophy. This we now do, with considerable additions, under a somewhat different title to our work.

As to the work itself, we are deeply conscious of its imperfections: we have an ideal which is far from being reached. The subject of Causality is confessedly a thorny one; but while its treatment can only be perfected by a repeated and re-repeated revision, with an honest bowing of the knee to truth, and, therefore, a ready retirement from pet-system and from mere human authority, we cannot help thinking that the day is not far off, when competent parties will arise to do justice to the great problem of Natural Law.

We have endeavoured to propound the Formula of Causality, as indicating certain clear and unmistakable principles at the foundation of all phenomena, *i.e.*, of all results, *i.e.*, of all operation; and, if these can be acknowledged, we contemplate a harmony in Psychology, which will be the harbinger of a still higher and happier harmony in Theology; and this, not simply in the lofty themes of Deity and of Divine springs of action, but also on the great question of Sin.*

The Author is not unaware that his views must be subjected to a severe ordeal, especially by the transcendentalists, before

* The question of Sin, it is obvious, is directly involved in the problem of Psychology; for if Psychology has for its object an inquiry into the modes and springs of mental operation, these must needs embrace the question of aberration from a recognised standard, which is Sin. So soon, therefore, as we are able to indicate the formations of thought and of will, with anything like scientific accuracy, we shall obtain an enormous leverage in applying these principles to the interpretation of Holy Scripture, which has for its object the treatment and disposal of the question of sin. As regards one important point in Natural Theology which, it must be allowed, has an important bearing on Revealed Theology, we may be permitted here to offer a brief illustration of the sanctions of Philosophy as bearing on judgments in Theology: *e.g.*, It is perfectly well known that the schoolmen pronounced Eternity to be "one undivided *now* without beginning or end." This definition has been fostered by the *a priori* philosophy, and our modern divines have quietly and uninquiringly adopted it. Dr. Hodge, of Princeton, in his recent extensive work on Systematic Theology, after quoting the schoolmen and others on this theme, quotes also the views which we have in this work propounded on the nature of Space and Time; and giving credit to the principles which we have there laid down as to the character of *duration*, defers to us, that the views of the schoolmen must be modified—that there must be succession in the thinking of God and in the operations of God—that the contrary is both inconceivable and impossible—(Vol. I. pp. 386-388).

they can be accepted. Be it so. If Reviewers will avoid an unmeaning and pointless invective, of which he has had some experience, he does not deprecate fair and legitimate scrutiny. The cause of truth demands that the maxim, *principia non homines*, should be maintained. None, perhaps, held that maxim more sacredly than the distinguished man whose philosophy we have ventured to examine and criticise. On the ground that Sir William Hamilton may fairly be regarded as the *coryphœus* of the school of thought which he represented, and that his learning, his genius, his name, have given weight and authority to views which, in point of fact, have retarded, and (so long as they are held) will retard, the march of science into the noblest, and, we hesitate not to add, the most prolific, field of human enterprize, we have given chief prominence to an analysis of his argumentation on the subjects before us.

We may just state that the Introduction now submitted, with the Appendices, contains the more important heads of our argument. We have felt it needful to fight our way through the heavy artillery of Hamilton "on the Philosophy of Perception," and we must leave it to others to say whether we have safely secured a basement for the doctrine of *Representation*. If so, we cannot permit ourselves to doubt that the theory of mind which we have espoused is essentially the sound one. It not only illustrates the whole scheme of Causality, but is otherwise, as we humbly think, less encumbered with difficulties, and more in harmony with facts, and with analogy, than any other scheme of Psychology we know. We admit that the problem of the Unconditioned has not yet received the justice it demands; but, as contrasted and connected with the problem of the All-Conditioned, we believe a train of thought has been introduced which will yet receive its full investigation: We have revised this subject by a new section at the beginning of Chapter first, and also by a critique on Professor Mansel. We have added a chapter on the principles of Causality as advocated by Mr. J. S. Mill; and we have re-written our analysis of Bishop Berkeley's principles of Human Knowledge.

From the days of Hume, the problem has been to find out "the causal nexus" in a question of cause and effect; and hence to point out what constitutes the phenomenon of *necessity*

which is allowed by all to subsist, as an irrepressible principle in that connexion; and Hamilton intimates, that "this very question has been the cause or occasion of what is of principal value in the speculations of Scotland, Germany, and France." Be this as it may, it will no doubt be admitted that it has at least set speculative ingenuity at work; and we have got into a huge labyrinth of metaphysics, terminating in——what? "human imbecility!" It seems nothing less than presumptuous for an ordinary man now to entertain the hope of touching the key-note that shall supply the *constant* which systematically plays its part in the grand scale of Causality, and at the same time to indicate the *contingent* which is the direct source of nature's variations: yet we must be pardoned if we believe in the possibility of formulating Causality, and of accounting for the phenomenon of *necessity*, as the connexion of cause and effect. If the *olla podrida* of our pages shall have contributed to settle this question, our labours will not have been in vain.

We may not close these prefatory remarks without taking notice of the great bugbear of materialism which has operated so powerfully in the Theological, as well as in the Philosophical world, in preventing, not a due investigation merely, but an entrance on the due investigation, of truth. That materialistic elements should be regarded as concerned in the operations of mind has been quite enough to drive hundreds from a due contemplation of the question; but the pressure of facts is compelling us to review our thinking on this subject. That the Brain, for example, constitutes the instrumentality by which Intellect operates, an instrumentality without which no mind is constituted in man, is proved by a multitude of facts; and farther, that the conditions of Brain go to define and to regulate the conditions of mind in every man, seems also to be proved by an endless variety of evidence. A narcotic will take away the power of thought, an infusion of alcohol will damage it, an attack of dyspepsia will weaken it. Is Intellect, therefore, a mere phenomenon of matter? We think we have shewn that it is not.

INTRODUCTION.

THE PRINCIPLES OF CAUSALITY.

SECTION I.—THE DIFFICULTIES OF MR. HUME.

THE principles of Causality lie at the very foundation of Philosophy. In truth, philosophy, in any one branch, is but fairly apprehended as a science, only when we apprehend the *rationale* of those phenomena which happen for the time to be the subject of inquiry. That certain elementary factors operate, when in conjunction with other elementary factors, we observe as the eventualities of an unvarying experience; the question, then, as to Causality, is not whether it be a law of operation, and therefore an operative fact: that is on all hands admitted; but the question is, as to what may be termed the *philosophy* of the fact, the *science* of the phenomenon. 1. Whence come the factors? 2. What is the Causal nexus of the factors? 3. Whence comes the regulative *operation, i.e.*, the law attending the Combination of the factors, under such a nexus? In short, on what principle does the combination of factors bring forth a precise and definite result,—such, that it must of *necessity* be that result and no other? These are the great questions which have to be solved ere we can pronounce upon Causality, and say what *Cause* is, and what *Effect* is, and what the *Relation* is between Cause and Effect.

Mr. Hume (than whom we have had no clearer or profounder metaphysician) tells us that the great object of his "Treatise on Human Nature" was to consider how Impressions and Ideas "stand with regard to their existence; and which are causes, and which are effects." His first conclusion was, that "all our simple ideas are derived from simple impressions;" and he was right! Yet in the stage at which philosophy had reached in his day, such a conclusion was of no value; for all the distinction he made betwixt Impressions and Ideas was, that the former had greater force and more liveliness than the latter;

he said nothing with respect to the *origin* of Impressions. If he derived Ideas from Impressions, the next and most natural question would be, Whence come Impressions? It did not occur to him that Impressions are the delineation or representation fundamentally made *ab extra* upon the organ of Sense, and carried to the Sensorium when, by correlation, as transferred to a new ground, it becomes Idea; and that an Idea, therefore, in Intellect, is but the correlation of Impression as lodged in the cerebral domain of sensation or feeling. It did not occur to him that, first of all, Impressions were radically the Images made at the external or outer terminus of the nerve (the external sense), and that when said impressions were carried to the inner terminus of the nerve, where the prerogative of sensation has it habitat, and where, therefore, sensation is awakened or aroused by the presence of an impression, that Impression therefore becomes what we call an Idea. His statement, that "the constant conjunction of our resembling perceptions is a convincing proof that the one is the cause of the other, and the priority of our impressions an equal proof that our impressions are the cause of our ideas, and not our ideas of our impressions," indicated clearly that, while he had obtained a sound view of the relation of impressions to ideas, he had obtained no correct notion of what causation precisely is; for surely it is incorrect to speak of a thing as the cause of itself. But one thing may be the *correlative* of another, that is the *imprint* of that other, that is the *reciprocal*, the *duplicate*, the *transcript;* the difference being in the different medium in which one and the same representation is developed; that whereas an Impression is a force upon a purely objective ground or substance or nerve which is without the property of sensation, an Idea is that very force carried into the more subjective ground which has this property.

If we would trace the drift which the current of Philosophy has taken from the days of Locke, we must needs go back to the time of Mr. Hume, who assuredly gave it the bent which it has since taken, and from which it has never fairly recovered. Mr. Locke said that there were two sources of impressions, viz., Sensation and Reflection: Mr. Hume adopted this view; but, in so doing, what do we find him asserting? He says, "impressions of Sensation *arise in the Soul from unknown Causes*,"

and impressions of Reflection are "derived in a great measure from our ideas." With him the order of origination stands thus: First, *impressions* of sensation; Second, *ideas* which are copies taken by the mind after the impression ceases. Third, *emotion*, which he calls "the idea of pleasure or pain, producing the new impressions of desire and aversion, hope and fear, which may be properly called impressions of reflection; Fourth, those again are copied by the memory and imagination, and become *ideas of memory* or *of imagination*; Fifth, these again give rise to *other impressions and ideas*: "so that the impressions of reflection are only antecedent to their correspondent ideas, but posterior to those of sensation, and derived from them." The examination of our sensations, he thinks, belongs to anatomists.

It would have been, however, only laying, or striving to lay, a logical foundation, had Mr. Hume studied the question of sensation, and sought out some natural source for the impressions of sense. "As to impressions which arise from the senses (says he), their ultimate cause is, in my opinion, perfectly inexplicable by human reason, and it will always be impossible to decide with certainty whether they arise immediately from the object, or are produced by the creative power of the mind, or are derived from the Author of our being." When Locke divided all our ideas into those of Sensation and those of Reflection, he failed farther to account for them; he, therefore, may be said to have left the question pretty much as Des Cartes before him had introduced it, who grounded all in the principle of consciousness. It is impossible, indeed, to take the question out of the category of consciousness; for an idea in its very definition is an object of consciousness. Here, then, has ever been the *crux philosophorum*. And probably when the question comes to be settled, as it will be, the wonder will be why so much difficulty should have been experienced, and so long experienced on this point. For what is consciousness? What, but the attribute of all mental phenomena. We have no help but to lay down facts as our consciousness declares and decides them to be. This is the primary and fundamental law of our being: all men act, and must act upon it: all men trust, and must trust to it: there is no exception to this rule.

The question is, Can we expound the phenomena of Consciousness? Can we account for that consciousness which is characterized as the sphere of Perception, and of all mental exercise?—of that which is characterized as acts of Remembrance, and of that which is characterized as exercise of the Imagination, and of that which is characterized as the intuitions of Reason, and of that which is characterized as emotion, or as expressive of some feeling, or some craving, terminating in Will? The probability is, that so soon as we obtain a perfectly satisfactory scheme explanatory of the origin of the ideas of Perception, the process, whereby ideas of Imagination and of the other phenomena of Consciousness will develope themselves as the natural sequence of the mental organization thus fairly and properly opened up, will come to be ultimately completed in all its ramifications. Can we then exhibit a clear and consistent Philosophy of Perception?

Section II.—Sir William Hamilton on the Philosophy of Perception.

The late Sir William Hamilton, who has given chief celebrity to the discussion of "the Philosophy of the Unconditioned"—a subject which it behoves us particularly to consider, but which we shall postpone as a suitable theme for entering on the Philosophy of the Conditioned—has also written stringently, if not convincingly, on "the Philosophy of Perception." We feel it needful to call in question the principles which he has enounced, both for the sake of the deep importance of the subject, and as illustrating the principles of Causality for which we contend. And here let us say, that our strictures evince no want of respect for that great man; for his memory must long be held deservedly in high repute. Gifted in no ordinary degree with those literary qualifications which always command respect; conspicuous for his acquirements as a scholar; and especially remarkable both for the extent and the accuracy of his knowledge of the history of Philosophy; and a lover of truth for its own sake,—he was enabled to adjudicate the respective claims of Philosophers with a terseness and discrimination and decision and authority peculiarly his own. His analytic ability was of the highest order; and, in virtue of this

power, none were better fitted to pronounce (as from his own stand-point of course) on the amount of credit due to the pretensions of those who had cultivated the field of abstract thought: none more able than he to lay bare as with a scalpel the involved threads of human speculation. None could more powerfully demonstrate the spurious, or prove the inadmissible, or handle with unmerciful severity the pretensions of those whose conclusions did not follow from their premises,—at all events if his own principles were granted.

At the same time, the ground, on which he took his own stand as a philosopher, involved principles which must give way under a powerful analysis: it led him not unfrequently into conclusions as extraordinary, if not as extravagant, as any which his powerful pen had so unsparingly pourtrayed. We shall by and by perceive how egregiously he failed in building up a clear and consistent scheme of thought (such as will abide the test of time with its impartial criticism) on the Philosophy of the Unconditioned. What we have now particularly to deal with is his criticism on the Philosophy of Perception.

Sir William Hamilton divides the various theories of external perception into those of the Presentationists and of the Representationists. The former, he says, holding perception to be an immediate cognition, either abolish any subjective object, or they abolish any objective object. The one class he calls *Presentative Realists*, as founding their doctrine on the datum of natural consciousness, or the common sense of mankind; the other class he calls *Presentative Idealists*, as viewing the object of consciousness in perception, as a phenomenon purely in the mind, and are therefore Idealists denying any external object. The latter (the Representationists), he says, deny to consciousness the cognisance of aught beyond a merely subjective phenomenon, are likewise Idealists, yet, as positing the reality of an external world, they must be distinguished as *Cosmothetic* Idealists. At the same time, he adds they must be considered as hypothetical realists, since they do not, like the presentative or natural realists, accept the existence of an external world directly on the natural testimony of consciousness. He gives two classes of Representationists, one who makes the representation a mode of the percipient subject, and the other who makes it a *tertium quid* distinct from the subject knowing,

and the actual object represented. Sir William tells us that "Natural Realism and Absolute Idealism are the only systems worthy of a philosopher; for they alone have any foundation in consciousness." The scheme of Hypothetical Realism he pronounces to be "philosophically absurd, although the favourite scheme of philosophers." His grounds for such a judgment lie in this, that "it is not only repugnant to our natural beliefs, but in manifold contradiction with itself, to suppose that, behind the non-existent world perceived, there lurks a correspondent but unknown world existing." He refers to his article on the "Philosophy of Perception," originally contributed to the *Edinburgh Review*, for a confirmation of this statement. Let us examine the principles set forth in said article.

"*In the first place* (he says), the hypothesis of representation is unnecessary;" for "in consciousness, as the original spontaneity of reason, are revealed the primordial facts of our intelligent nature," and "consciousness cannot be explained or redargued from without." But, *secondly*, he says, "a representative perception annihilates itself;" for "the truth of consciousness is the condition of the possibility of all knowledge. The first act of hypothetical realism is thus an act of suicide." "In the *third* place, it is the condition of a legitimate hypothesis that the fact or facts, for which it is excogitated to account, be not themselves hypothetical." But here, "to account for the possibility of an unknown external world, the hypothesis of representation is devised, and to account for the possibility of representation we imagine the hypothesis of an external world." "In the *fourth* place, a legitimate hypothesis must account for the phenomenon adequately and without violence; but the hypothesis in question militates, or more properly destroys and recreates, the very phenomenon for the reality of which it should account. The supposition of a representative perception hews down the phenomenon of an existence different from self into two fragments, the existence and the intuition. The existence of external things, which is given only through the intuition, it admits: the intuition itself it rejects. But to annihilate what is prior and constitutive in the phenomenon is, in truth, to annihilate the phenomenon altogether." "In the *fifth* place, the fact which a legitimate hypothesis is devised to explain must be within the sphere of experience. But the existence of

external things transcends, *ex hypothesi*, all experience, and is a mere hyperphysical chimera." "In the *sixth* and last place, an hypothesis itself is probable in proportion as it works simply and naturally. But to explain at all, it not only postulates subsidiary hypotheses, but subsidiary miracles. It attempts to explain the *knowledge* of an unknown world by the ratio of a representative perception; but it is impossible, by any conceivable relation, to apply the ratio to the facts. The mind either knows the reality of what it represents, or it does not. On the former alternative the hypothesis annihilates itself; for if the mind be admitted to be cognisant of the outer reality previous to the representation, the end towards which the hypothesis was devised as a mean has been already accomplished. The mind would thus be supposed to know before it knew; or it knows what it is not conscious of knowing. The other alternative remains, that the mind is determined blindly to represent the reality it does not know. Knowledge is thus supposed to be the effect of ignorance, intelligence of stupidity, life of death. The hypothesis of a representative perception thus presupposes a miracle to let it work." "The scheme of natural Realism is the only system on which the truth of consciousness, and the possibility of knowledge, can be misdirected; whilst the hypothetical Realist, in his effort to be wise above knowledge, like the dog in the fable, loses the substance in attempting to realize the shadow."

We have considerably epitomised Sir William's arguments against the doctrine of *representation* in perception, but we have endeavoured to extract the pith of them; and though ostensibly directed against Dr Brown, yet they must be held as applicable to the scheme which they combat. Of what value then are these objections? We shall briefly examine them, after making a preliminary remark or two.

First. It may be at once admitted that *the mind can properly be immediately cognisant of its subjective states only.* At the same time, if, in examining these subjective states, we find that the very cognition of the idea (as an object *in the mind)* is tantamount to the direct cognition of the external reality, then we have, and must have, immediate perception thereof. If we find that for wise reasons the representation, as a representation, is not regarded, and is, therefore, lost sight of—lost as a *secun-*

dum quid, distinguished from the reality of which it is the representation—lost as a perceptible impression distinct between the percipient Intellect and the external reality of which it is but the impression—lost as much as the nexus operation is lost that takes place, as intermediate between the point of volition and the movement of the fingers: if we find that the representation can alone give a sense of the reality, by reason of the fact that it is and cannot but be a representation, and as such, an expression of the reality of which it is the representation, then have we immediate perception of external reality. If it be proved that in order to *know* the reality of any thing whatever, the mind must have an expression of it conveyed to it, that it may be conscious of it, and that without said expression, as giving the precise characteristics, it can have no consciousness of the object; and farther, that the mind is precisely conscious of what it receives; then are we said to be directly percipient of externals. If it be nonsense to speak of the mind as dependent for its knowledge on pure Consciousness, in as far as there can be no consciousness unless there be an object of consciousness; and if in perception the object of consciousness which we call an idea, be a representation, as the direct expression of some objective reality thus conveyed to the percipient subject, then that very expression necessarily implies the reality of which it is the attestation and the warrant.

Second. We cannot consent to the dogma that knowledge and existence are convertible. Knowledge as applicable to man is the mental acquisition of the characteristics of existence, and is in its very nature subjective. Existence is the objective reality, the characters of which are conveyed to Intellect, that they may be represented in Consciousness, as the characteristic of Intellect, when it receives ideas; or shall we more properly say, the consciousness of which is aroused in Intellect when the representation is carried to Intellect. Knowledge is the correlative subjectively, of existence objectively, so far as we have had experience of existence. No doubt, Perception, which is the first and fundamental act by which we attain to the knowledge of external objects, is the simple receiving by Intellect of the impression as it enters by the door of external sense, which impression becomes the idea or percept, as it passes through the territory of sensation, and is tantamount to the thing perceived;

for the idea or percept is to the mind synonymous with the thing itself, in as far as it is the only possible representation or expression of it to the mind. And there is no possibility of knowing the thing but through the representation of it. The thing, therefore, and the representation of it, thus become practically one and the same to the mind; for the bird I see, and the tree on which it is perched, are not thought of in the representation, but in the reality, of which the representation is the information, and nothing more. I do not give my attention to the information, as a mode of instruction, but I give my attention to the thing signified in said information; and it is only in this, as the representation of the thing, that the thing itself or any of its characteristics can be known. It is only when we come to inquire into the *modus cognoscendi*, that we know anything, or think anything, about representation. Yet representation is no less a fact, as *the report* to the mind of the reality outwardly existing. The fact then that the mind requires to have an announcement made to it respecting existence, is sufficient indication that knowledge and existence are two very different things—that the subjective is indeed one thing, and the objective another. Knowledge we pronounce to be subjective: it is the mind's own acquired furniture: it is representation in all its varied characteristics built up on an intellectual ground, and comes therefore under the category of intelligence; but the very fact that we have this accumulation under the name of knowledge, is of itself proof that the *knowledge* of a thing is different and distinct from the thing, just as the subjective is different and distinct from the objective.

Third. We cannot consent to the dogma, that there is intellectually a *self* apart from knowledge. Let us but inquire what the Ego fundamentally is. Fundamentally it is that which is indued with a capacity for consciousness as its peculiar characteristic. If there be no consciousness of aught, and therefore no consciousness at all, there is intellectually no selfhood. If there be no consciousness, there is, of course, no object of consciousness in the soul, that is to say, there is no soul framed into a personality as such. There may be the *naked* Intellect; but then, if naked, if said intellect is replenished with nothing, it is without individuality: as Intelligence, it is nothing. Hence a very important doctrine follows. It is this:—that the primary

law or condition of all knowledge is that *before any intelligence can have cognisance of self, it must, as the ground or condition of this cognisance, have a cognition* of existence, that is, of external things. And we believe this to be practically the fact universally. Children and young people have a natural inability in thinking of self. They are thinking of what is around them, they are absorbed in the thought as having for its concern an outward object, but self, as such, is not an object before the mind. Self only comes before the mind under reflection, or when there is some felt want, and, therefore, some craving for the supply of that want; but self does not ordinarily come before the mind as an object of thought. It cannot do so in perception. Yet the converse of this proposition forms the basis on which the late Mr. Ferrier erects his whole edifice in his "Institutes of Metaphysic." He lays down the primary law or condition of all knowledge to be this, that "along with whatever any intelligence knows, it must, as the grounds or condition of its knowledge, have some cognisance of itself." If this proposition be false, his whole superstructure is false; and he himself acknowledges it must be so. And that it must be so we think is certain, in that he bases all upon self as an Intelligence *before* there is intelligence! Whence comes intelligence? He knows not. It is simply begged as a necessary preliminary on which to lay the various strata of philosophical truth. "The apprehension of self (he says) is essential to knowledge." What, we ask, a self without knowledge! Can there be a mental self, if there be no mind? Can there be mind if there be no knowledge, that is no object of thought. The apprehension of self is a *consequence* of our knowledge and not an *antecedent* of it; for self is made up of knowledge. In order to the constitution of self intellectually these three things are required:—1st, A world of active existence with its operative laws; 2d, A living animal economy adapted to the world; and 3d, A naked Intellect in connexion with the animal economy, to receive the characteristics of that economy as the basis of its character, and the impressions from the world, as peculiarly the materials of thought, transmitted through that economy. Thus, then, self is the sum total of our cognitions stored up from the world; and, all his experience combined, constitutes the unity or individualism of each separate person.

We are now in position to proceed with Sir William Hamilton's "Philosophy of Perception." His first argument is that the hypothesis of Representation is "unnecessary." If so, what are ideas? and whence come they? And what is knowledge? what can we understand by it? And whence comes self? and what notions can we form as to the constitution of self? We must have primarily some ground to rest upon, and some consistent views as to the laws of mind. What are they? Sir William classes them under the names of Presentationism and Representationism. Be it so. What notion can we form of Presentation as abolishing a subjective object? Every idea and every thought is a subjective object. What can thinking be without an object of thought? The notion is self-contradictory. "Unnecessary"! why, we cannot imagine to ourselves any rational theory of perception without the aid of representation: we cannot imagine how consciousness is practically possible unless by representation. Sir William refuses to ask how Consciousness is possible; he takes the fact as inexplicable, he "accepts the intuition, but cannot explain it, because it is ultimate." Is it ultimate? We can trace the *rise* of consciousness in awakening out of sleep: we can trace the *variations* of consciousness in the different forms of thought: we can point to the quiescence of consciousness on the return of sleep. Is it ultimate, therefore? Not so. Consciousness is, no doubt, that fundamental feature which plays in every possible characteristic of mind; but, in the ever-varied phenomena whereby it is characterised, we have data enough to assist us in saying, under what circumstances it is aroused; under what circumstances its manifold changes are produced; and again, under what circumstances it is arrested. Sir William in extinguishing all effort to explain the operation of consciousness starts on a pure *petitio principii*. In adopting his ground, we foreclose at once and for ever all attempts to understand and unravel the subject! He cannot logically proclaim representation to be unnecessary, unless he is first able to establish "presentation" upon a satisfactory basis. But of presentation what does he say? "As we did not create ourselves, and are not even in the secret of our creation, we must take our existence, our knowledge upon *trust*." But the question is not to understand *how* to create, but to understand *creation*. When, therefore,

he says that "asking a reason for the possibility of our intuition of external things, above the fact of its reality, as given in our perceptive consciousness, betrays an imbecility of the reasoning principle itself," this is neither more nor less than a method of locking the door against all inquiry; and he assumes to himself the summary prerogative of throwing overboard the possibility of an expository realism. "Consciousness (he says) cannot be explained or redargued from without." From without! What does he mean? We explain consciousness upon the selfsame principles as we explain any other phenomenon of the mind, even by the help of those circumstantials whereby, as a fact, it is established *as a phenomenon of thought.* Accordingly, we pronounce Consciousness to be *that energy which characterises Intelligence, i.e.,* Intellect under the presence of some representation conveyed to it. We challenge a feature of consciousness that may not be accounted for, directly or indirectly, by representation. Hence we say representation is absolutely necessary.

But, secondly, Sir William says, "a representative perception annihilates itself in subverting the edifice of knowledge. Belying the testimony of consciousness to our immediate perception of an outer world, it belies the veracity of consciousness altogether. But the truth of consciousness is the condition of the possibility of all knowledge." Or rather, we would say, the truth of consciousness is the foundation of all affirmation. Of course it is. But the doctrine of representation does not question this, and does not in the least infringe this great law: *sed contra,* it is founded thereon. We have already discussed this point in our first preliminary remark. We have seen that representation is the only possible efflux of the outer world conveyed to the soul; and it is the only direct expression of the outer world upon the soul. The soul has no other, and practically knows no other direct line of communication; and the beauty of this doctrine of representation is that it teaches how there is conveyed to the soul the full, precise, and exact truth. I have the representation of a stone wall before me by the sense of sight, accompanied with the impression that it stands some ten or a dozen yards distant from me. I measure the ground and I find it to correspond. I touch the wall, and I get a sense of the qualities of stone thereby. I find the representations of one sense to

harmonize with, and to confirm, the representations of another. I have no other means of cognition. I have no other consciousness than what is thus conveyed to me by representation. How then can representation be said to conflict with, or to belie, consciousness? What other consciousness have I but the consciousness of the wall as represented to my intellect? And what is this but the consciousness of the fact itself; for what is the representation but the expression to the mind of the fact, and, therefore, the evidence of the fact? The mind, accordingly, has the consciousness of the fact, and not simply the consciousness of the expression as distinguished from the fact; for it has no means of distinguishing betwixt the fact and the expression of the fact, in as much as the expression alone gives the *idea*, and, consequently, the knowledge of the fact.

Thirdly, Sir William says "the fact or facts of a legitimate hypothesis should not be themselves hypothetical." He says that the facts about which this hypothesis is conversant are two, the *mental modification* and the *material reality*: that the problem to be solved is their connexion: that there is a see-saw between the hypothesis of representation and the facts: that the facts are assumed as hypotheses, and the hypotheses explained as facts: that each is established, and each is expounded by the other. "To account (he farther says) for the possibility of an unknown external world, the hypothesis of representation is devised; and to account for the possibility of representation, we imagine the hypothesis of an external world." We cannot regard this as anything like a fair statement of the case. The question relates to the *fact* of an external world, and how to account for that fact. Upon Sir William's own showing, *we are bound to assume it as a fact*, otherwise (as he says) we "belie the veracity of consciousness." There is no man alive but believes in the fact of an external world. It is the strongest assertion of consciousness to every man; and it is only the philosopher, when he gets confounded among ideas, that ever doubted or questioned the fact. And even the philosopher, when not following the *ignis fatuus* of his own idealism, is yet practically obliged to acknowledge the fact, and to act on the fact of an external world. It is perfectly monstrous to proclaim that the fact of an external world is a hypothesis; for there is no fact in being, if that be not a fact; because there is no fact in being more per-

sistently forced on every mind, and more continuously proclaimed to every mind. We would ask any of the followers of Sir William Hamilton to say, what fact in consciousness can be proclaimed, if that fact is questioned? We do not then concede that the existence of an external world is a hypothesis; for an hypothesis requires some ground to support it; but we shall go all the length which we think should satisfy such a mind as Sir William's; and we shall lay our foundation upon this, viz., that *we have the consciousness of an external world.* Our problem then will be: *this being given, to account for this consciousness.* Oh! says Sir William, as to consciousness, that is ultimate, that is inexplicable, let us not meddle to explain that! For what purpose did he study philosophy, and what is philosophy as a science? What, but an exposition of our states of consciousness? No greater indignity can be, than thus to cut the cable and turn the ship adrift from her moorings, because thus to hold her fast gives her an inconvenient anchorage in the harbour of thought.

It is a fact that I have the consciousness of the room in which I am sitting, and that there is a picture on the wall. The nature of this consciousness is such, that it is characterised by the *certitude* that the picture, and the wall on which it hangs, are outside of me. This conviction forms a part of my consciousness. I may as well doubt the very fact of my consciousness, as doubt this assurance with which it is accompanied. I cannot separate the fact of my consciousness of the picture, from the very conditions of the fact, viz., that the picture is outside of me. Externality, in short, is the inexorable diagnostic as to the picture, which is the object of my consciousness; and the externality is confirmed when I go forward, and, using another sense, touch it with my hands. But again: I contemplate myself as a thinking personality in connexion with this external object; and I arrive at an equally strong conviction that the consciousness is a subjective state; and that it must of necessity be separate and distinct from the external object which said subjective state indicates and proclaims. The problem, therefore, necessarily assumes this form:—How am I to account for this subjective idealism in consistency with the assurance which accompanies it, and which it gives out, that the object of my consciousness is external? I keep in view that I am funda-

mentally bound over to regard the object as external; for that is an essential ingredient of my very consciousness. I repeat then, having this mentalization of an external object, How am I to account for it on the supposition that the conviction of my consciousness is correct? I cannot go out of the arena of my consciousness: I keep to this: I keep to the fact which it intimates to me, that the picture is external to me, and, taking this announcement to be true, how am I to account for it? I have to observe, that if true, my consciousness of it did not place it there: if true, the picture is not on the wall because I see it, but I see it because it is there. My consciousness is not antecedent to the picture, but the picture is antecedent to my consciousness. This is a point of enormous importance in this ticklish controversy. It is just the question, Whether existence is antecedent or not to the knowledge of existence. And we think this question might be settled in a breath; for how could we have the knowledge of existence if there were no existence? It surely is because there is existence that the knowledge of existence is a possibility. Even upon the principles of a pure subjectivism, there must somehow be existence as the ground of the knowledge of it. We are constrained then to posit existence, as something primarily independent of our knowledge of it, and that we come to know of it because it exists, and because it is brought to us as an object of consciousness.

We have narrowed the question, then, considerably. We examine into this state of consciousness, and we find *first*, that it is not simply the consciousness of an object in the mind, but that the very characteristic of this consciousness is, that the object, which is the subject of consciousness, is external to the mind; and we find *second*, that the object must in itself necessarily be, as thus represented, independent of the consciousness; for I am conscious of it because it exists; I cannot be conscious of it if it did not exist. What follows? Why, as a thing of course, the representation of it comes to my mind. There is no other alternative. If there is, on the one hand, the *external* object, as consciousness verily intimates; and if there is, on the other hand, the Intellect separate therefrom, as the internal subject of consciousness, there must be some connexion betwixt the external object and me the internal subject. That connexion we say is Representation. It is not needful here to go into the

quomodo of Representation. It is enough for us to know that there is such a thing as representation. We see it in a thousand ways. We see it in the image which alights on the mirror: we see it in the processes of photography: we see it in the telegraph and in the daguerreotype: we see it in the convection of sounds and scents: we see it in every example of correlation. We hold, then, that Representation is at once a legitimate and fitting hypothesis to account for the certified fact of consciousness, viz., that there is an external world.

In the fourth place, Sir William says, "the hypothesis of representation only vindicates its utility by a mutilation, or more properly, the destruction and re-creation of the very phenomenon for the reality of which it should account, viz., the immediate knowledge or intuition of an existence different from self." His charge against it is, that "it hews down the simple phenomenon into two fragments, the *existencc* and the *intuition*," that "it admits the existence of external things, and rejects the intuition, through the *ratio cognoscendi*, and, therefore, the *ratio essendi*, of their reality." He holds that "the existence given in consciousness necessarily falls with the intuition on which it reposes," that "a representative perception is an hypothetical explanation of a supposititious fact; and creates the nature it interprets." These are strong statements, and would require to be well authenticated. When it is said that "the intuition of external things is rejected," there is in the statement nothing more than the intimation that the representative theory is adopted: then it is assumed as indisputable that "the existence of external things is given only through their intuition," and building on this cool assumption, he exclaims, "to annihilate what is prior and constitutive in the phenomenon, is, in truth, to annihilate the phenomenon altogether." What is the intuition with Sir William Hamilton? It is the assumption of the whole question at issue: it is *the perception itself;* and there the matter ends! Any explanation pertaining to the *modus operandi* of the perception he not only refuses to give; but he will not admit that any explanation is possible. We say that in the exercise of perception we must have a percept, or an idea of the thing perceived. No! says Sir William, there is no percept, no idea, but the thing itself: it is a thought pure and simple of the reality: there lies nothing mediate betwixt

the reality and the perception of the thing itself: it is direct cognition of the external reality: this cannot be under representation. Not so fast, Sir William. Here is the *de quo quæritur*. We hold that intuition, as it is thus usually understood, is not only in itself no rational *modus cognoscendi*, but defies the possibility of framing any *modus cognoscendi*. It begs the whole question of an external world, and thrusts it dogmatically, not merely into the inner chamber of thought, but it makes the elements of thought to be the mode of thinking. We protest most strongly against what we must regard as one of the strongest delusions in the metaphysical world. There is need for a revisal of our terminology; and in regard to none more than this word *intuition*. We do not say that this word may not be employed to a useful meaning; but we would apply it simply to those cognitions which arise under a comparison of two cognate factors, when the mind is thus capable of discerning what in itself does not appear directly, but is an *inference* from what appears. We hold that, as regards perception, the doctrine of its being a process of intuitioning, is at once perverse in fact, and mischievous in tendency. It is perverse in fact, because it engages us to a process of thinking of which no account whatever can be given, and defies any possible process of exposition; and because it arrogates the question of an external world, as something necessarily hanging upon thought, instead of the thought hanging on the external existence. The hypothesis of perception being intuition, moreover, is mischievous, because it puts all exposition out of the field, and then stands as an obstruction to all exposition on this deeply important question. We repudiate intuition as the *ratio cognoscendi*, and therefore as the *ratio essendi*.

We have already shown that the method of representation answers all the ends craved by the doctrine of intuition. There cannot be intuition and representation both: but unless both were to exist, Sir William Hamilton's argument falls to the ground. If we perceive the external world by representation only, then we have no intuition of it apart from representation, and the mind is in harmony with one thing alone, even with that of which we have the representation. Shall we be told that we have thus to do in that case with the representation, and not with the reality? We repeat (and we call attention to

it) this is a delusion; for the representation is the sole and only *report* of the reality we have or can have. The representation *per se* is an impossibility, the representation is the typical transference of the reality, and the only intermediate contact with the reality which we can have. Representation is properly tantamount to the doctrine of intuition: we say it is the element without which thinking is impossible. I touch the stone-wall: there is at once conveyed to my mind the character of the object touched. The representation is the conveyance of that character; and the mind receives the characteristics of the substance touched, precisely as these exist. It is a mistake to suppose that there is a *tertium quid* by the representation, besides the wall and my mind; for, apart from the touch, I have properly and practically no mind on the subject. The representation, then, is what Sir William calls the intuition.

Where, then, is the mutilation? Where the destruction of the phenemenon? Much more, where is the re-creation of it? It is an utter misconception of a simple fact. There is neither mutilation, nor destruction, nor re-creation. Sir William, working up with artificial ingenuity his doctrine of consciousness and of intuition, as things not to be spoken against, directs all his thrusts to the doctrine of representation accordingly; but if his position is found to be untenable, his attacks are utterly beside the mark. They have no point, for the simple reason that they have no truth. Instead of the existence given in consciousness falling, by rejecting it as an intuition, that is an intrinsic property of thought, we hold that the very contrary is the case, and has been found to be the case, viz., that *existence has been disputed, just because it has been regarded as an intrinsic property of thought.* And *vice versa:* instead of existence falling, by adopting the theory of representation, it *desiderates existence as a necessity,* because representation is an impossibility without the prior reality of which it is the exponent. When, therefore, Sir William says, "representative perception is an hypothetical explanation of a *supposititious* fact, and creates the nature it interprets," we meet him, and answer—Representative perception is the only natural explanation of the simple and unquestioned fact of consciousness, and destroys nothing, and creates nothing. The fact of consciousness implies the fact of an external world; and we have to shew that this fact of conscious-

ness is consistent with some rational explanation; and the rational explanation is, that granting that the fact is as consciousness declares it to be, viz., an external reality, then the consciousness of this external reality arises from a representation of the fact to the mind, so that the mind thereby has cognisance of it. The whole process is simple, logical, and satisfactory. How can Sir William call the phenomenon under any circumstances a *supposititious* fact? We do not in any way beg the question of externality: it is given in consciousness: it is a fact of consciousness prior to any explanation; and our processes of explanation will not make it less a fact of consciousness than its own declared character (as a fact of consciousness) proclaims it to be. We take it for what it is, and we proceed to explain it. Sir William says the fact is an intuition of the mind. We answer that this, in the first place, is no explanation, but a gratuitous assumption; and in the second place, that this forecloses the possibility of an explanation, by referring it to a source of which we know nothing, as it is made to lie acquired from a source we cannot reach; and in the third place, that it posits as a source of action what we do not know, and cannot know, to be a source of action, in respect of mental phenomena. Our position is totally different. We lay hold of the fact as given in consciousness; and we say there is a possibility of explaining the fact. First, we assume that the fact is *given* to consciousness, that the object is not inherently in the intellect as something native to it; and we have good grounds for this assumption, for it is not a postulate. Our ground is, that it comes into consciousness as something *new*, and acquired *ab extra;* another ground is, that it comes through *sense;* for where the sense is shut the consciousness of the object is wanting. Another ground is, that be the object of existence where it may, the object must exist *before* we can have the consciousness of it. Second, finding that this fact of consciousness is given, we simply proceed to say *how* it is given. How can Sir William Hamilton then pronounce the fact to be "suppositious?"

Sir William's fifth argument against the representation-theory is that it deals with a fact which transcends experience. We meet him with a direct negative to this statement. What does he call experience? He speaks of it as comprehending "all notions which we can think non-existent." We are not satisfied

with this definition of experience; first, because it fails to indicate its actual character as a process of thought; and second, because it is classed as a capacity of thought, and may, therefore, lie out of experience; and third, because if experience comprehends "all notions which we can suppose as non-existing," then many notions, which we cannot suppose as non-existing, must, in that case, be classed as out of experience, but which are yet, without doubt, within the category of experience. We prefer to regard experience as *that which comes to the mind through sense*, and can be reviewed by sense—anything, in short, subject to the law of perception. The question, then, set before us is, not whether the hypothesis of representation be within the sphere of experience, but the averment that the fact which it is devised to explain lies beyond the range of experience. "The fact (he says) for which that of a representative perception accounts (the existence of external things) transcends *ex hypothesi* all experience—is the object of no knowledge, is a bare *ens rationis*, a mere hyperphysical chimera." *Ens rationis!* object of no knowledge! hyperphysical chimera! Why, it is the object of every man's knowledge, and it is the entity of no man's reason as such. It is a fact in the consciousness of perception prior to reason: and it is submitted to reason to deal with it: and it is that reason only which operates from the wild data of a pure idealism making it a mere property of thought, that would question the fact of externality. Of all strange hallucinations this seems to be the strangest; and perhaps not the least strange phenomenon in the history of exposition is that such averments should for a day have ever been allowed to pass without correction. It is only an example of the facility with which we may impose upon ourselves, when wrapt up in a favourite theory; and farther, an example of the facility with which recondite absurdities may be palmed upon us when clothed in a verbiage, to which we are either not accustomed, or which, from the complexion given to it, we do not feel competent to examine; and, therefore, we pass it by with that indolence which is unwilling, or without taste, for what may appear a difficult task. Be this as it may, the statement must be met with direct denial of what it affirms. It affirms that the existence of external things is not within the sphere of experience: Then we must conclude that there is, and can be, no such thing

as experience at all! For what is all the experience of mankind based upon? Upon what but their connexion with external things? Take external things away, and where is experience? Is not the external world the ground of all experience,—the experience out of which all possible experience comes? Is it not the experience of every man who has an eye to behold, a hand to grasp, an ear to hear? It surely, therefore, argues a peculiarly bold attempt on the credulity of mankind to tell them that the existence of external things is but a deduction of reason! a chimera too!! hyperphysical, that is, supernatural, a thing beyond knowledge!!! If one hopes to succeed in any statement, let him take an example here, and exert plenty of mettle, and the chances are in his favour, if otherwise he is supported by a character for intelligence. But here is the danger to the real progress of literature, when a man of the highest standing, like Sir William Hamilton, should be found to utter statements so grossly in the teeth of plain, simple, and unvarying experience.

But it may be said we do Sir William injustice in that his definition of experience is different from ours, and that every man is entitled to use and to define his own terms. And will Sir William's position be improved thereby? Is it any defence of an erroneous conclusion to say that we make use of indefensible premises? Will his averment be anything nearer the truth if we say that experience means that which is "no necessity of thought"—"that which we can annihilate in thought"—"that notion which we can think non-existent." *(Disc.*, p. 325.) He allows that whatever is without necessity of thought may come within the category of experience. What then? Why, the material world comes within the category of experience (!) for, to use his own words, "we can even in thought annihilate matter itself;" and again, "we can in thought easily annul all the properties of matter, and even matter itself." We have said that we do not accept Sir William's very abstract definition of experience, and especially as he bases it on a capacity which may be different in different persons, and therefore can be no definition at all, as having no valid touchstone of truth; but irrespective of this, taking his own definition, and taking what he has in many passages of his writings said of external things, as "things which are adventitious, empirical or *a posteriori*, that

is, derived from experience" (p. 586), then, without question, we have external things placed within the category of experience by his own hand; but here he says "the fact (the existence) of external things transcends all experience." Can both statements be received? Can external things be at once within and beyond experience? We leave it to the followers of Sir William Hamilton to relieve his position from inconsistency here.

But let us hear Sir William himself. We find the following in a fragment, p. 971 of his edition of Dr. Reid. "Experience in the philosophy of matter is accomplished through external perception or sense; in the philosophy of mind, through self-consciousness or internal perception. By this method we take cognisance simply of phenomena. These may be causes and effects, but (at least out of quantity) they are known merely as phenomena in a relation of proximity in time, or in time and space; whilst it is only objectively by inference and generalization, subjectively by custom or association, and in virtue of the necessity we are under to think a cause for every event, that we regard as causes and effects phenomena which experience gives us only as closely successive and coadjacent. By experience we learn the *fact that* (ὅτι) not the *reason why* (διότι); for as what we thus know is known merely as existing, contingent it may be, but not as necessarily existing, so experience informs us of what *is*, not of what *must be*. This (*i.e.*, what we cannot but think) it consequently behoves us not to refer to mere experience; for experience cannot mediately or immediately enable us to account for such a phenomenon as a necessary thought. Custom and association are founded on experience; and as far as custom and association go, experience avails. But the customary, the associated, have their commencement, and are not presupposed in thought as united; they may incline to unite in action, they tend to a mutual suggestion in thought. But the problem to be solved is not a strong inclination, but an inevitable compulsion so to think; and such an original necessity can never be resolved into an acquired propensity. Philosophers who rely exclusively on the process of experience in the explanation of psychological phenomena have erred in two ways. For on the one hand they are at fault either in overlooking the phenomena of mental necessity altogether; or on the other

hand in attempting to account for them on the ground of experience alone."

We have been at pains to transcribe the whole of this fragment of Sir William Hamilton's most matured views touching the question at issue; and now what do we make of it? He says at the close of this extract, that philosophers have erred in two ways:—that on the one hand they have overlooked the phenomenon of mental necessity; and on the other they have attempted to account for it in experience alone. Let us examine these points: let us begin with the former alternative, which accuses of overlooking the phenomenon of "mental necessity." We reply that the phenomenon of "mental necessity" is not at all an element in the consideration, but only the fact which is undisputed, as the very datum which accompanies, or rather, which characterises, the cognition of external things. It does seem extraordinary to charge philosophers with neglecting the phenomenon of "mental necessity" in a case which, when regarded as a *given fact* in consciousness, has to be received, and must be received, even as it is given to us, as the primary and unhesitating conviction of the understanding; and then (more marvellous still) affirming this *given* fact as being an *ens rationis!* Were it a question of inference, then, of course, it would be an *ens rationis*, and in that case we could speak of the "mental necessity." But the consciousness of externality is in the mind prior to all reasoning; and it is only when we come to explain under what circumstances this kind of consciousness is aroused, and when positing representation from the external world, that under this deductive process we conclude that the cognition, as thus received by an impression made upon the outward sense, and transmitted through the ophthalmic nerve, becomes of *necessity* a cognition of understanding. But this leads us to the second alternative. Its accusation is that "philosophers have sought the explanation of the psychological phenomenon in experience alone; and have erred accordingly." Why, what else have they but experience? What else does Sir William suggest? What other process does he hint at for the explanation of the psychological phenomenon, that external things exist? He speaks of an "experience in the philosophy of matter," and also of an "experience in the philosophy of mind:" he tells us that the former comes through sense, and

that the latter comes through self-consciousness; and that by this method we take cognisance of phenomena! Let it be observed that we have here to do with phenomena as *existing facts* in the mind, and not at all with the abstract rationale as to the *necessity* or *non-necessity* of the phenomena, as if it were a question whether the mind could cognize said phenomena otherwise than through a cognition of them: let it be observed (we repeat) that we have to deal with that which stands before the mind as a universally acknowledged *datum* in consciousness, and that we have not, and in the circumstances cannot have, aught to do with the rationale as to whether this *datum* be there or not. The *de quo quœritur* simply and surely is: Given in consciousness the phenomenon of an external world, to account for that phenomenon, under a rational process of causality. Before we can by possibility come to speak of the phenomenon as a *necessity*, we must first be able to give some account of the phenomenon as a *fact*. It is not an *a priori* question, such that from certain purely mental data we must needs conclude the necessity of an external world, as something so deduced, and not otherwise revealed, even as an astronomer may deduce the necessity of some planet, before its actual discovery as a fact: it is a question purely *a posteriori*, such that having in actual possession certain mental data, we have to deal with these data, not as instrumentality for deducing any inference of necessity, but as themselves objects in thought to be explained how they came there. In short, the necessity of an external world is not the primary inquiry; but the problem is to explain the fact. Let Sir William take the experience which he says comes through sense, or the experience which he says comes through what he calls self-consciousness, still he offers nothing but experience—that experience which with him is tantamount to non-necessity. Sir William then being arbiter, we conclude that experience, and experience only, can deal with this very question, viz., the phenomenon in consciousness of an external world.

We proceed to the sixth and last argument of Sir William Hamilton, viz., that "an hypothesis itself is probable in proportion as it works simply and naturally, that is, in proportion as it is dependent on no subsidiary hypothesis—as it involves nothing petitory, occult, supernatural, as an element of its expla-

nation." Now what is the charge of Sir William against the doctrine of a representative perception? He says: "to explain at all it must not only postulate subsidiary hypotheses, but subsidiary miracles." He says "it is impossible by any conceivable relation to apply the ratio to the facts"—the ratio of *knowledge* to the fact of an *unknown world*. "The mental modification (he says) in this case *represents* the reality of an external world." "The mind either knows the reality of what it represents or it does not. On the former alternative the hypothesis under discussion would annihilate itself in annihilating the ground of its utility. For as the end of representation is knowledge (and as the hypothesis of a representative perception is only required on the supposed impossibility of that intuitive knowledge of external things which consciousness affirms) if the mind be admitted to be cognisant of the outer reality in itself previous to representation, the end toward which the hypothesis was devised as a *mean* has been already accomplished; and the possibility of an intrinsic perception as given in consciousness is allowed." Here Sir William begs the very point which is not allowed, and cannot in any sense be allowed. One only of two ways is contended for on either side. Sir William, on the side of the presentationists, holds to an intuitive perception: the representationists discard intuition as regards perception, and say that the mind sees external reality by representation. How, then, does Sir William come to his conclusion? "If the mind be admitted to be cognisant of the outer reality in itself, *previous to representation*," &c. Admitted!—the very thing that is not admitted. Anything more make-believe was never perpetrated. Sir William will have an *a priori* necessity of an outer reality apart from representation and independent of representation; and that is a good reason in itself for concluding in behalf of others who cannot see through the same spectacles! Under such logic, Bobadil, single-handed, is powerful against a legion. Quietly to set up his own theory, as after all the theory of an opponent, the theory which he specially rejects; and then to draw down upon that opponent the conclusion which he stoutly denies, reminds one of a contest with soldiers of our own construction. Nor is it merely setting up a man of straw, which we do not acknowledge as the true man; but which a little reflection might have shown Sir

William was not the veritable one. The whole, if not an impertinence (as we cannot suppose), is certainly a delusion. At all events, we take the freedom to affirm that any case in which the whole question is more thoroughly begged, and more gratuitously assumed, we cannot imagine. "If the mind be admitted to be cognisant of the outer reality in itself previous to representation," there must be some ground for this cognisance; and if so, what is it? Self-consciousness! answers our author. Self-consciousness! We challenge a single case of self-consciousness that is not ultimately traceable to some act of consciousness in perception. We demand therefore, what is the ground of this cognisance of the outer reality, if it be not that of representation? And on what possible ground could representation be devised to account for perception, if already accounted for on other and sufficient grounds? Can there be more grounds than one for our perception? If not; if the law of parsimony and the law of reason conclude that one causality only is in operation for its own proper and peculiar effect, to what does Sir William Hamilton's accusation amount? As well might the wolf fairly accuse the lamb, which was drinking down the stream, for defiling the water while he was drinking up the stream. Well might Sir William say, if his ascription of representation be correct as abetting the theory of intuition, "the end towards which the hypothesis was directed as a mean has been already accomplished, and the possibility of an intuitive perception as given in consciousness is allowed!" And he might well go on as follows: "Nor is the hypothesis thus only absurd as superfluous. The mind would be supposed to know *before it knew*, and like the crazy Pentheus *see its objects double*: or the identity of mind and self, of consciousness and knowledge, is abolished, and my intellect knows what I am not conscious of knowing." But what if Sir William himself be the sole author of this *reductio ad absurdum!* It may be said in his behalf that he is contending simply against Brown, and that it is Brown's theory of Perception which he thus exposes to such withering scorn, to such contemptuous ridicule. We shall notice this point by-and-bye; and let others judge whether the ridicule does not recoil on himself.

Sir William goes on under this head to say: "The other alternative remains, that the mind is blindly determined to

represent, and truly to represent, the reality it does not know. Here the mind either blindly determines itself, or is blindly determined by an extrinsic and intelligent cause." This statement seems to us no less extraordinary than that we have just noticed. "The mind is determined blindly to represent:" Every word seems to us misplaced in such a connexion. In the first place, we question the fact of mind at all, apart from the external world; in the second place, we question the possibilities of any determinations of mind apart from the external world; in the third place, we question the statement that the mind represents at all, aught as essentially from itself independent of the external world; in the fourth place, we say that, blindly or not, the presentations or representations can only be according to the realities of an antecedent existence. And again, when he says, that the mind represents "the reality it does not know," we hold that he is guilty of a grievous paralogism. We can suppose the case of an imaginary conception: we can suppose the case of the mind representing "a sea all nectar and its rocks all gold," which if not a reality, would at least be an idea, "which it does not know" as a reality. But here we have our Author treating of *perception*, and from the ideal point of view! and he speaks of the mind representing, "*and truly*," the reality it does not know! Why, what is the representation but the very source of knowledge, in as far as it exhibits a fact given in Consciousness? How can *he* (as a presentationist) know that it is "truly?" He has but the fact given in Consciousness; *and the whole question is to explain the rationale of this fact.* He begs the whole question when he begs the fact of mind; and more especially of mind as determining. And he speaks unphilosophically, when he speaks of the mind blindly determining; and especially when he speaks of it as "blindly determined to represent the reality it does not know." How can it represent as reality, that which by the very terms is not represented? To represent as reality is to *know* rightly or wrongly; for it is to have a consciousness of some thing. Not to know is to be without any satisfactory consciousness of the thing not known. What then can Sir William Hamilton mean by the mind having a consciousness of that of which it has no consciousness? He simply puts forth from himself a self-contradictory proposition; and fathers this upon the hypothesis of representation!

But, says Sir William, there are two lemmas in this alternative: "either the mind blindly determines itself, or is blindly determined, by an extrinsic and intelligent cause." We have just seen the utterly supposititious character of the first lemma as he terms it, for it is purely conjectural: we now notice the second of these lemmas. It is that "the mind is blindly determined by an extrinsic and intelligent cause." Why he should employ the epithet "intelligent" to a direct and secondary cause it is hard to say. Why he should speak of the mind being "determined" in a question of undetermining and spontaneous consciousness it is hard to say. And why he should speak of the mind as "blind" in an operation, when it is in no condition to determine one thing or another; but simply to be a recipient of a fact communicated to it, we do not know. But altogether the language seems to us out of place. Had Sir William said that *the mind is aroused to consciousness by the presence of an extrinsic object*, and then sought to inquire into *the cause* of this awakened consciousness, as an adequate accounting for it, nothing could have been more reasonable; but we have at every point to take exception to the principles assumed, and to the conclusions asserted, by our Author. There is no room whatever for the use of the term "blind," as applicable to the mind, for it happens that external things in consciousness (that is the consciousness of externals) are the primary datum, the primordial element of consciousness, the first objects of thought, in the expanding mind; and that intellect as such is the recipient of pre-existing facts, and the passive recipient too, in as far as it has neither the power nor prerogative of modifying those facts, but *must* accept them precisely as they are primordially given. It is thus we say that the mind becomes enlightened; that is that it has a knowledge of the facts; that is that the facts are so presented to the Intellect, and by the representation of them, it becomes *mind*, or has a consciousness of them.

What then becomes of Sir William's "hypothesis of a representative perception presupposing a *miracle* to let it work." Where is the miracle? "To say nothing of less illustrious schemes (he says) the systems of Divine Assistance, of a Pre-established Harmony, and of the Vision of all things in the Deity, are only so many subsidiary hypotheses, so many attempts to bridge, by supernatural machinery, the chasm between the

representation and the *reality*, which all human ingenuity has found by natural means to be inseparable. The hypothesis of a representative-perception thus presupposes a *miracle* to let it work." Indeed! Does it follow that, because certain "illustrious schemes," which are utterly beyond the range of natural law, and inadmissible, therefore *no scheme whatever* is admissible? This would be tying us with the gordion knot of mystery with a vengeance, in that because this man and that man's plan has failed, *ergo*, it says all possibility of an explanation is at an end! Does it follow that "we are necessarily ignorant of the mode in which causation operates" because no satisfactory explanation may have been yet given of its rationale of operation? or does it follow, because Sir William Hamilton avers there is a chasm between representation and reality, which all human ingenuity has found insuperable to bridge, that therefore such a chasm actually exists and must always exist? Perhaps Sir William had not discovered that the principle of representation, as regards the qualities of external existence, is nothing less than universal; and that our limited senses are simply the organs intended to catch those representations, and through these it is the part of Intellect to ascertain the reality of those which they do catch.

We can see but one possible objection fairly started to the theory of representation, as the theory which satisfactorily explains the law of perception; it is this, that the Intellect on which the representation must be regarded as thrown, being of the nature of *spirit*, so it would be a confounding of the distinction between matter and spirit to say that the representations of the former could be carried to, and impressed on, the latter. We are persuaded that there is nothing whatever in such an objection. In the first place this objection, if it proved anything would prove too much: for we know as a *simple fact* of consciousness, that there is a junction betwixt our souls and our bodies. In the second place, we know that bodily states affect the condition of our souls, even as we know that our souls can operate on our bodies. In the third place, we have reason to believe that matter itself is fundamentally based on spirit; while that which we call spirit, must yet be regarded simply as refined essence or substance, susceptible of quality, or of qualities as essentially its own: even as the qualities of matter. There is

therefore no antecedent improbability of that which we call Intellect or intellectual spirit, that is spirit endowed with the characteristic of consciousness on receiving impressions, being the recipient of representations from the material world, when the mechanism or instrumentality whereby those representations may be laid hold of, and conveyed to said spirit, is duly constructed and adapted for such a purpose. We have that mechanism first of all in the external senses which are fitted to lay hold of representations in light, and sound, and savour, and smell, and touch; having, as the organs of our senses have, a series of nerves which constitute the conduits of impressions to the great nerve-centres, where it is proved sensation hath its habitat, and where therefore it is natural and necessary to suppose that Intellect must have its locale. In this way then, what may be called a material representation in the Brain becomes (if we may say it) an immaterial image in the Mind. Where is the antecedent improbability of this, if we have the experience that matter itself is reducible to immaterial states? Or should we not rather say, if there is an antecedent probability of matter itself being originally produced from immaterial states, (as we term them,) that the impressions of colour for example, coming from matter, and carried through an immaterial medium (*i.e.*, through the ether which conveys light) to the organ of sight, as the nerve-terminus adapted to receive said impressions, should through the nerve be transmitted to, and be marked upon, that medium (the Intellect) which is adapted to receive it as an object of consciousness; and that Intellect must thus have the consciousness of it when the representation is conveyed to it? Every fresh lesson in psychology confirms this view.

But it may be said that our strictures do not justly fall on Sir William Hamilton, in as far as he is arguing against the hypothesis of Dr. Brown. We reply, that in the first place, the argument of Sir William is broadly against the doctrine of representation, which he thinks is unworthy of a philosopher; and in the second place, that it falls to a certain extent harmlessly against Brown, in as far as he assuredly is no more to be placed in the category of the representationists than is Dr Reid himself. All the difference we can discover betwixt Reid and Brown is that the former makes Perception "a peculiar power" of whose mode of operation neither he himself nor any other can

give an explanation; while Brown speaks of Perception "as the result of a common and more general principle of the mind," which principle he calls "sensation and the associated suggestion," leaving us little wiser with the explanation than without it. No doubt he says, by way of query, "What can matter be in its relation to the percipient mind but the cause or occasion of sensations or perceptions." What then? why he tells us that perception is "a sensation *followed* by reference to an external cause." This reference he calls "the suggesting or associating principle." "We have no need (he says) to invent a peculiar power of the mind for producing perception, since the principle of association, and that of an experience of consequents and antecedents suggest the object." Was Dr. Brown then a representationist? Why, he as well as Dr. Reid held "the image in the mind to be the mere relic of an obsolete theory in perception." (Lect. 25).

But we may not follow the theories of philosophers. We are satisfied if we have been able to defend the theory of representation against what has been regarded as the most ponderous onslaught which it has ever received in the arguments of Sir William Hamilton; and which has been thought at once the most unanswerable and the most complete attack thereon known. We are bold enough to venture to think that we are entitled to hold, that the theory of representation has ground to stand on, and that the attack of Hamilton can be proved after all to be without point and powerless. We still keep to the theory of representation, as explanatory of our perceptions: yes! and of every cognition we have under association, from Memory, from Imagination, or under any of the processes of conception.

Section III.—The Grounds and Rationale of Mental Operation generally.

Having obtained a theory of Perception under which we have the consciousness of an external world, the question once more returns to us, Can we expound the phenomena of consciousness which we obtain in the exercise of Perception? We believe this can be done upon perfectly adequate principles. If it cannot be done then we are shut up to this, that no result in chemistry or in natural science can be explained. All that we

desiderate for the communication betwixt the veritable object and the organ of sense, is nothing more than what the ordinary man of science requires to explain the reflection of the face on the mirror, or the reflection of the image on the photographic plate. It is ascertained without any hesitation as to its truth, that as there is a medium (air) necessary for the conveyance of one kind of message (sound), so there is a medium (ether) necessary for the conveyance of another kind of message (light); and it would be difficult to imagine the conveyance of any kind of message without some kind of medium as the bearer of it. It would be difficult to imagine a message, an image, an impression, a representation of any kind whatever, sent forth and absolutely resting on nothing, and inhering in nothing. It would be easy to shew that such a supposed message could have no being at all, as having no substratum, no basis or bottom whereon it might inhere, or have itself framed, formed and expressed as an impression or condition. It seems tolerably obvious that the utterance must go at once to nonentity for want of a medium to receive it, to hold it, to convey it. This principle is of vast importance, for it is fundamental to the whole question.

Again, it is essential, not only that there be a medium to *receive* an impression, but also that there should be a medium to *convey* it to the object that is a receptacle for it, as being adapted for its final resting place. One medium may be adapted for *receiving* an impression; but the impression lies for the moment transient or evanescent on the surface, as on a mirror. Another medium may be so prepared as to *retain* the impression made upon it, as in the case of a photographic plate. Another as a *transmitting* medium tranfers the impression received, the impression being weakened, inversely as the square of the distance, at least, when free as in the extension of light through ether. In other media, when insulated, this law does not seem to be realised, as in the case of the telegraphic wire. On what principle can we account for the fact of transmissibility? We find a law existing, that whatever affection we impose upon a part of a certain material, the same affection pervades that material within certain limits. We may call it the law of transmissibility, or the law of penetrability; but there must be some understood principle on account of which transmission exists.

We have such a principle: we believe that it lies at the foundation of all operation: yes! at the foundation of all movement in the world of mind, as well as in the world of matter. That principle may be, and is, displayed in numberless forms of movement: it gives occasion, indeed, to all mechanical movements, while itself is not mechanical. That principle is indebted for its operation to two antecedent attributes of primary existence, which we are content to posit in this place as postulates, but which are not postulates in point of fact, in that both are the necessary conclusions deduced from an analysis of the present economy of things. One is the universal subsistence of what may be called primary substance in a *negative* condition, having *potentiality* as its fundamental, inalienable, and inseparable prerogative. The other is the fundamental subsistence of what may be called also primary substance in a *positive* condition, having all *power*, as being the absolute holder of those essential qualities from which all subordinate qualities are derived. As regards the former, we have what is properly the UNCONDITIONED absolutely: as regards the latter, we have what is properly the ALL-CONDITIONED absolutely: the absolute as *negative*, and the absolute as *positive*. When we break down or negative quality after quality in matter—when we annihilate all that is positive therein, all that is perceptible and contingent in substance, there must still remain the ultimate substratum or *substans* in which the quality or qualities inhered—a persistent negative foundation which cannot be removed, and whose essential attribute, as we have said, is potentiality, *i.e.*, the *capacity* of manifesting, or giving expression to, quality when imparted, *i.e.*, the *capacity* of manifesting force, and, therefore, of exerting power when no longer in a negative, but in a positive condition. Again: when we examine into the state of things in creation, compounded and re-compounded as it is of secondary qualities, all traceable to a quality or qualities more primary in character, we are constrained inevitably to come to some ultimate primordium, as the foundation of all that is positive in the world; for it is utterly impossible to suppose the positive to spring from pure negation. Hence two things both inferring the doctrine of *Affinity*. One is that on the supposition of there being primordially a negative *substans* (*i.e.*, wholly unconditioned), being intrinsically without any quality, but receptive thereof as the

positive, as something formed, it must have affinity, *i.e.*, a ready receptivity for all that pertains to the positive, being the universal medium of transmitting the characteristics of quality wherever it is positively lodged. Another is, that on the supposition of primitive positive attributes of quality *in uno*, all the sub-qualities ultimately derived therefrom must of necessity have an *affinity* to the primary quality from which they are derived and more or less to one another; and it is but rational to suppose that under potentiality, one quality must *shew* its affinity to another, according to the nature of the conditions, either by attraction, as marking a sympathy of one quality for another, or by repulsion, as marking an antipathy of the one to the other. Affinity, therefore, must be indefinitely various, and it is the principle by which we account for the convection in space of an impression or an image from one substance to another, when the conditions are favourable for that end, as in optics, &c.

This principle of affinity is acknowledged in point of fact. We have sought to point to the philosophy of the principle; but there is not a writer on chemistry but points to the fact itself, and points to it as illustrated under a variety of forms. Chemical affinity constitutes one of the fundamental questions whereby the laws of combination betwixt different chemical properties are established. Then apart from this, but doubtless in intimate connexion with this, we have the various forms of what have been called mechanical attraction, in the attraction of cohesion, capillary attraction, the attraction of gravitation, and so forth. Upon whatever principle then we account for the existence, and the power, and the operation of affinity, there is no possibility of denying the fact; and having the fact, as a law of operation in all the departments of scientific investigation, in Physics and Physiology,—why should we question the fact when we came to the domain of Psychology? Whether the principle of solution or of exposition to which we refer, as the ground work of this great and fundamental problem, be the correct one or not, does not affect the fact of its existence; and surely if we find that this question lies at the very foundation of the laws of substance, it is but reasonable, if not necessary, to suppose that it must have its kingdom in the domain of psychology as well as in the preliminary departments of physics and physiology. If the astronomer accounts for the motion of

the heavenly bodies by means of the law of gravitation; and if he finds it needful for an exposition of his hypothesis to beg the existence of what he calls an "interplanetary ether" as the medium which holds the world in the fast grip of regulative action, according to the affinity of the great globes of space, the medium moreover which conveys with unspeakable rapidity the condition of luminosity which is generated by the Sun, it may be in connexion with its peculiar atmosphere, what hinders us from the discovery that the self-same all-pervading medium operates as the universal servant of creation, we ought to say the universal potentiality, whereby the static and kinetic states of matter are expressed according to the conditions which are present? That impressions are conveyed is certain: there can be no dispute as to the fact: images in colour to the eye, flavours in scent to the nostril, and savour to the palate, sounds to the ear, while the actual impact of substance upon any part of the living frame gives what we call the impression of touch.

We ground our rationale of psychology on the pre-existing and acknowledged doctrine of affinity; just as we are obliged to ground our rationale of Physiology on the self-same doctrine of affinity. If in physiology we inquire upon what principles the various organs of the bodily economy perform their functions, we are fundamentally referred to affinity. Upon what principle does the stomach digest its food? Why is the gastric juice produced from the stomach by the excitant of the food entering into it? And why by chemical combination with it is the food changed into what is called *chyme*? And why, as the chyme enters the duodenum, is it subjected to the action of the bile and pancreatic fluid? And why is the solvent process thereby completed, and a pultaceous matter is formed, which gets the name, *chyle*? Why is this chyle, being now in a condition adapted for the vessels of the absorbent system, appropriated and received into the circulating system, through the medium of the blood-vessels, while the *fœcal* matter, as it is called, is gathered together as residue, and is thrown out by the large intestine at the other end of the alimentary canal? The operation of every separate portion can only be explained by referring it to its own peculiar law of affinity; and it is said to be peculiar, in as far as affinity operates in dependance on the precise conditions of the substances which come together. Whatever organ we choose

to consider, whether the liver in its formation or excretion of bile, or the kidney in its power of eliminating water from the blood, or the skin in its power of drawing perspiration from the system, all is referable to the operation of affinity. Physiologists know of no other law. They see the fact: they see the *elective* law of affinity at work, and the *repulsive* law of affinity at work; and with this law they are able to account for all the composition on the one hand, and disintegration on the other, which pervades the whole of the functions of the living structure of the body. We ask for the same principle in psychology, to account for the operations of mind.

We say the eye is made for seeing, and the ear for hearing, the nostril for smelling, and so forth. What is this but saying that the eye has an affinity for colours, the ear an affinity for sounds, and the nostril an affinity for scents? And farther: what is this but saying, that the eye with the nerve attached to it hath an affinity for, and a readiness to transmit, the images which alight on the retina; and that the ear hath an adaptation to catch the impression of sounds, and that the nerve attached thereto hath a readiness, as a telegraphic wire, to transmit the same; and that, correspondingly, the nerves of the nostril have a readiness to lay hold of, and to transmit, the quality known as scent or odour? The nerve which is attached to the eye will not answer the purpose of the nerve which is attached to the ear: nor will that of the ear answer the purpose of the eye: nor will either the one or the other suffice for the purpose of smell. Each organ is fitted with its own *peculiar* apparatus, and constituted for its own individual function, which it is meant to fulfil; and this it does fulfil, and no other. Now upon what principle does any one of these organs operate? We see the fact of their distinctive operation: what explanation can we give of the fact? What explanation can we possibly give beyond that of *affinity*? We find the principle of affinity in operation in other departments of physiology: what other principle can we imagine to be at work in the department of the senses? In physics we speak of conduction and non-conduction; and we ascribe the conducting or non-conducting power of substances according to their different qualities as material substances: and what is this but ascribing it to their various affinities? for affinity is found to differ, even

as quality differs, and to vary as the temperature or condition of quality varies.

Having, then, an external apparatus in the body, exposed to all that prevails in the world, and adapted for each department to catch the representation of all that prevails in the world; and to transmit the same inwardly, as by so many telegraphic media, to a terminus within: what is required, as the terminating ground or receptacle of these varied phenomena, but a subject receptive of them all, and out of which shall be evolved *the consciousness* of these separate freights or transfers, if we may so term them, that have been conveyed through the separate senses? and a consciousness of them, too, *under the precise characteristics with which they come.* That there may be a substance receptive of *all* that is separately received by the eye, and the ear, and the nostril, and the palate, and the touch of the body generally, is obvious enough from what we experience in the world. Take, for example, the most refined of all substances made known to us, viz., ether: we find it to be the recipient, as a connecting medium, of the conditions of matter. For instance, it takes in that quality which links one body of matter into connexion with another body of matter, as exemplified in the various phenomena of gravitation: It is the chain that links them. Again, it takes in the phenomenon of luminosity generally, so that a lighted body will have its condition of light transmitted, even as the homologies of attraction are transmitted decreasing in intensity, like gravitation, as the square of the distance. Again, it takes in the images of material substance, when the condition of luminosity is present, as we see by the numberless photographic experiments which are now in vogue. But let us take an example in the gross world of matter, *i.e.*, of highly positive substance: take the *soil* of the earth. It is a receptacle for all kinds of seeds, and yields nutriment for them all. Every kind of plant, whatever its own peculiar affinity, and however different from every other plant, finds a maternal bosom in the receptive character of "mother-earth." Even so, we believe, there is subjectively that substance which we name *Intellect*, having as its essential attribute a general receptivity for all that is transmissible by the five senses, when the impressions so transmitted first become ideas, and are termed percepts, or things perceived, and second, cognitions as

correlatives of ideas, and which are stored up in Intellect under the name of knowledge.

We make a distinction betwixt the consciousness and the cognition; although it is utterly impossible to separate the one from the other. There can be no cognition without consciousness; that is, wherever there is perception there is a consciousness of the thing perceived; that is, where there is the *cognition* of an outward object there also is the *consciousness* of it, as aroused by the presence of the object. The selfsame distinction is applicable to all consciousness and cognition in Imagination, for example, as well as in Perception. In distinguishing betwixt the cognition and the consciousness, we introduce a most useful and most needful discrimination, as applicable to the nomenclature which prevails in the science of mind. We have reason to be dissatisfied with the looseness with which different terms are employed to signify the same thing. We believe that most of the terms in use have a *precise* and peculiar signification; and in such a pursuit, especially as psychology implies, it is particularly necessary that there should be an entire understanding as to the exactness of its terminology, without which we get beclouded in misconceptions, and confounded by misapprehensions. We believe, then, that consciousness more immediately expresses the *force* which pertains to an exercise of the mind, while cognition ought properly to be confined to the *form* thereof. Let it be noted that there is no form in the world unaccompanied by some kind of force, and that there is no force unaccompanied by some kind of form. It is inconceivable that there should be so, whether we think of the question experimentally, or empirically, or philosophically. Philosophically we cannot imagine the exercise of force without some definite quality or qualities present in some form or another, as giving rise to the force, and as employed in it. We can, no doubt, imagine potentiality or the *capacity of force*, as in the unconditioned, where no positive quality is; but we cannot, in these circumstances, imagine the actual exertion of force, because the purely unconditioned contains nothing which should bring out operation in any way—in one way more than in another; for there is in utter emptiness no means of force, because there is no positive ground for disturbance, seeing there is no scope for the operation of the law of affinity. There can

be no affinity where there is nothing positive, and, therefore, nothing that can be operative. It is under the positive, and the positive alone, that force is at all a possibility; and where the positive is, there must in the very nature of things be some *form* or another attached to it. We cannot imagine the positive without form. We say, then, that *form* and *force* are inseparable from one another; and yet that they are not to be confounded. Particularly, they should not be confounded in a science where such delicate and nice distinctions have to be made as in Psychology.

Let us apply this doctrine of two inseparables to describe phenomena in the province of mind. We must say, of course, that every impression has necessarily its force and form: how, then, are these distinguished and described as the impression comes to belong to the category of mind? First of all the force becomes *sensation*, and the form becomes *idea*; so that there is no sensation without its accompanying idea, and, of course, there is no idea without its accompanying sensation. Idea and sensation are, therefore, inseparable: the former indicating the *form* of the impression as it enters the territory of mind; and the latter indicating the *force* with which said form is accompanied. We hold it then to be a matter of immense moment in regard to the accurate acquisition of our mental states, if we can come to see the intimate and inseparable alliance, yet distinctive view, betwixt idea and sensation. First: they both belong to the territory which stands as *common ground* betwixt pure Intellect and the material body with which it is joined. It is never to be forgotten that Intellect is joined with the brain as the focus whereat bodily states are concentrated; and that in this junction there is a common territory, the Sensorium or sensorial ganglia, all whose properties belong exclusively neither to the one nor to the other, but are equally common to both. In being equally common to both, this territory is in a sense subjective and objective to both; for it belongs both to the body and to Intellect. This may be regarded as the most remarkable case of all, but let any one examine into it narrowly and he will find it to be true. He will find that whatever is transacted on this territory may be rightly regarded as at once the property both of body and of mind, *i.e.*, where mind is to be found. Now: ideas and sensations are the fundamental

characteristics of this territory,—as indicating the *forms* which have their constant entrance here, and the corresponding *forces* or sensations which are characteristic of said forms. There is a third characteristic of this common territory, in that in a waking state it is sensitive to that impression which comes forward to it. And this sensitive waking state exists under that *application of Intellect* which we call *Attention*, an application which has its validity, save when the activities of the sensorium, &c., require rest and reparation in sleep. This common territory, as the region of sensation and of idea, is of necessity the region where all the *immediate* operations of the mind are conducted: the region, consequently, whereat consciousness and its corresponding cognition have their origination, and out of which their expression and validity are developed: the region, also, to which ideas are carried from the cerebral storehouse, when Imagination and Memory are exercised, just as it is the region to which ideas are carried from the external world, when Perception is exercised, and through which, therefore, we have that fund of forms stored up which constitutes the depositary or the pabulum of our knowledge: the region, in short, through which the Intellect is fundamentally built up as an edifice of knowledge or intelligence.

But we pass on from the sensorial region thus spoken of to pure Intellect. And here we have to inquire whether, in the medium of Intellect itself, there is not the precise *correlation* of that Brain-work which takes place through the medium of the sensorium? We have said that the sensorium is the common ground of Intellect and of Brain—a ground which participates of both. We have said that it is a point of junction with the body, in that the affections of the body (which has no sensation in itself) are conducted thereto: is it not also a point of junction with Intellect, in that from this focus of bodily states we have a *consciousness* of the sensations pertaining to them? Is not the Sensorium, then, a linking medium between the body and the Intellect? We have seen how our impressions in respect of *form* become *ideas* when they reach the sensorium, and how in respect of *force* they become *sensations* in the same circumstances. What then? Why, in the medium of pure intellect, the ideas are converted into *cognitions*, and the sensations are similarly converted into *consciousness*. And as pure

Intellect is the ultimate region of the *Ego*, they become as static forms, *i.e.*, the specific furniture of the *Ego*, and express, therefore, the very condition of the Ego as an Intelligence. While, therefore, the Consciousness in Intellect corresponds to, and is exactly correlative with, the *sensation* in the Sensorium; and while the cognition in Intellect corresponds to, and is exactly correlative with, the *idea* in the Sensorium; and while both sensation and idea are, therefore, so far objective to Intellect, we have, as Intellect's ultimate possession, and what constitutes its proper subjectivity, *consciousness and cognition* as its force and form in exact correlation with *sensation and idea* as the force and form in the Sensorium: and this force and form are constantly varying as characteristics, just as the original impression varies, which primarily has its origin in the external world. And as Intellect is the ultimate subject thus acted upon, so it becomes stored with the forms of which in this way it is the inheritor: and it comes to be characterized by these forms as its knowledge, and as characterized by them it comes to be personified or individualized as a soul, in direct connexion with, and in immediate consequence of, these forms as its proper and peculiar endowment.

While making the distinction betwixt force and form in this way, as pertaining to the exercise of Perception, we may note that the selfsame distinction can be observed in every exercise of the mind. It has only to be noted that in the region of the Brain there is a receptacle for impressions—a receptacle wherein impressions that have primarily come in from the external world in the exercise of perception are *stored up*—a receptacle, therefore, from which impressions are given out as they are required, and which are brought forward to the Sensorium in the varied exercises of mind, as, for example, in Remembrance, in Imagination, in Apprehension, or in Conception; and which are again stored up according to their character. That is, they are stored up in Brain as impressions; and they become ideas again, when drawn forth upon the territory of mind. Take, as an example, a case of memory. What is the recalment, when we have the remembrance of what at some former period was an object (for instance) of perception?—What is it but the Intellect's cognition of a former idea; and which, as being something already possessed, is said then to be *re*-cognition,

which is but another name for remembrance? What does the return of *former* impressions involve but Intellect's reception, through the territory of sensation, of ideas which formerly had obtained their form therein? and, therefore, they are recognised by Intellect as properly existing in itself. In this way, then, the return of ideas to the territory of sensation, in the act of remembrance, is only to be distinguished from the *primary* entrance (as in the act of perception) of the ideas into said territory *(so far as they are similar or identical impressions)* by the circumstance, that in perception they come directly from the outer world, and in remembrance they come directly from the receptacle of impressions where they have been stored, and that when returning from this storehouse of memory, they are fainter, that is, less deeply impressed on the mind. Here, then, as before, we have simply a repetition of sensation with its inseparable idea, and of consciousness with its inseparable recognition. The only difference is that the exercise of the Intellect is here termed Remembering instead of Perceiving, to mark the fact that the cognition is directly out of the receptacle of Memory, and not directly out of the broad World of external existence.

Again: let the process of mental operation be what is properly termed Imagination. This is different from remembering, in that while remembering implies the calling up of old forms as they originally entered, imagining implies an analytic and synthetic process,—a power of generalization, a power of separating ideas on the one hand into their component elements, and of combining the component parts again into fresh compositions, that is of abstracting portions, and then of building up the abstractions into new forms. This power is due to the remarkable apparatus in the brain, which is endowed with the prerogative of thus dealing with the impressions which are stored up in its repository of impressions. We are not concerned here to complicate the subject, by endeavouring to explain *how* the ideas of Imagination are manufactured, any more than we were above concerned to account for the *modus operandi* in the recalment of ideas; (this we refer to the associations that take place under *affinity*), but what we say is, that in the exercise of Imagination, we have in the sensorium (just as in Perception, &c.,) the idea with its attendant sensation, while again, in pure Intellect, we have correlatively to these, cognition with its ever attendant

consciousness. The sole difference lies in this, that while the sensation in the circumstances of Imagination may be fainter, the intellectual exercise is of course marked as being what it is, viz., a process of the *Imagination*, that is as being the cognition of images *not* directly or purely from the external world, and not simply and purely from the storehouse of ideas as they actually stand in that of memory, but a kind of compound manufacture out of these.

But still farther, we may be said to have an exercise of Intellect which is neither Perception, nor Memory, nor Imagination, but which might be properly called Intuition, as being the cognition that comes forth under the comparison of two cognate ideas, and which belongs to the category of Judgment. All intuitions in this sense, as indicating a comparison, and therefore marking the character of an object as measured by a standard, are *new ideas* just as in imagination we have *new ideas*; and they are, as a matter of course, attended with their characteristic sensations. In correspondence with said ideas and their sensations, we have in pure Intellect their correlative cognition and consciousness. The only distinction here is that to mark the character of the cognition as being neither Perception, nor Remembrance, nor Imagination, we properly term it Intuition in order to Judgment. We do not think the term Judgment sufficiently expresses the insight into the two things compared, but it well expresses the decision which is the result of this insight. All Judgments may be comprehended as Intuitions; but all Intuitions can scarcely be regarded as Judgments. For example, the finding of a mean betwixt two terms can hardly be called a Judgment. Whether it be in the region of Physics when we find out a colour that lies correspondingly between, or in equal harmony to, two given colours, or in Mathematics when we find a harmonic mean betwixt two given terms: but when found Judgment pronounces accordingly.

Judgment indeed is attendant on every act or exercise of Reason; but its business is simply to pronounce decisions according to the cognitions which are brought out under the operations of Reason. There are two powers or faculties, for each of which there must be a peculiar cerebral instrumentality, and which are specially our handmaids for the employment of Reason, viz., Apprehension and Conception. Both have regard to *a cognition*

of the relations pertaining to objects, but the former has respect to the *cognition of existing relations*, the latter has repect to the *cognition of relations that may be made to exist* in order to the fulfilment of a purpose. The whole subject of Reason is of infinite importance to understand. Hence in regard to the nomenclature we employ in the exercise of our mental powers, and the precise meaning intended to be conveyed thereby, we should feel our recital to be wanting, if we said nothing in regard to Reason. Reason has been regarded in the philosophy of idealism, as that power whereby Intellect envisages necessary truth, draws conclusions in morals, and lays hold of God and immortality. We prefer to say that Reason is *the cognition of relativities*, and Judgment is the adaptation of them. In the exercise of reason we must always cognize not merely some object as a matter of fact, but the relationships which belong to that object. Reason is an exercise of wide and varied application. Its simplest form is *the cognition of relationships* as attachable to matters of fact, *i.e.*, as attachable to simple ideas whether they be ideas of Perception or ideas of Imagination, or Ideas of Memory simply. These *associated ideas*, which we call relationships, will come forward to Intellect spontaneously, and be simultaneously objects of consciousness along with the cognition of the fundamental ideas with which they stand connected. The next simplest form of Reason seems to be *the Cognition of Relationships* as suitable for the fulfilment of a purpose. A purpose, it may be stated, is the naked schema which will arise in the mind, on encountering an impediment or difficulty in the prosecuting of any work. For example, in prosecuting a journey we come to the bank of a river and the impression is immediately given, How are we to cross it? Or in contracting for the execution of some work, How is it to be done? This faculty is in exercise in all inventions. There is, first, the *choosing* of the particular ingredients as the material elements in the relationship which is adapted for the purpose; and second, there is the *associating* of said ingredients under some particular formula, *i.e.*, under some special causal connexion, as the connexion in which the things must stand to one another in order to fulfil the demands of the schema of thought which requires to be filled up. Again: There is a still higher exercise of Reason which belongs to what may be called the Kingdom of Morals. It is *the cogni-*

tion of relationships which bear upon and affect the welfare of any sentient subject, whether the me or the not-me. The cognition of relations as sentient objects, *i.e.*, objects susceptible of pleasure or of pain, is the cognition of what are called moral ideas; and it is out of the presence of these ideas that the peculiar emotion known as *moral* is aroused, and consequently that we have the presence of what is called *conscience* as a power which is generated on the cognition of such a relation. It occupies more space than we have prescribed for ourselves, to be profuse in furnishing examples illustrative of the dogmas we lay down; but we may here briefly note as expletive of the foundation of morals, how the presence of an idea which affects either self or another party equally sentient, begets an immediately controlling emotion for the regulation of said idea in its practical outlets. Two persons are thirsty, and they come to a vessel of what appears to be water; and they are inclined to drink of the contents. But one has a knowledge that some poisonous ingredient has got into the water, and he refuses to taste it; and he prevents his neighbour from tasting it also. How is this moral action explained? It arises out of the cognition of the condition of this liquid, when brought in as a relation applied to the condition of the sentient beings to be affected thereby. Hence out of this cognition of so untoward a relation there springs up an emotion known as *moral*, which prevents the relation from being practically effected.

It will be seen that Reason is not that transcendental faculty which too often it is described to be, as the power which not only apprehends necessity, but lays hold of objects beyond the region of experience, as if Intellect had some higher method of cognition than that which comes through the processes of Understanding. Reason is simply a peculiar prerogative of the Understanding; and it is that peculiar prerogative which cognises the relation of one thing to another. Nor can we doubt that its foundation is laid in the cerebral economy, just as every other form of the Understanding is laid therein. In one form we have Perception as laid in the impressions made upon Outward Sense: in another form we have Imagination as laid in the impressions stored up in what may be called Inward Sense, and which may return as the ideas of Memory or in the abstractions which are made through generalization; and all these may be what are

called simple forms of the Understanding, as being the simple cognition of insulated ideas. But along with the apparatus which receives and stores up simple impressions, there is also that accessary apparatus which marks the attending circumstances under which an idea is received. Hence in the spontaneous exercise of Perception and of Imagination, we have that sample of reason which is termed Apprehension, or *the cognition of the relations* that actually exist outwardly or inwardly. Again, in the forced exercise of Perception and of Imagination as in processes of invention we have that sample of reason which is termed Conception, or *the cognition of the relations* which had no previous existence, but which have been drawn forth, and brought up from the storehouse of thought, in adaptation to a particular schema or purpose to be fulfilled. And still we have another form of Reason to which we have so far alluded. This form is different from the others referred to in that it is not the simple cognition of a relation but *the intuition of difference* when two cognate ideas are compared, *i.e.*, when like is compared with like, *i.e.*, when one of the ideas is a standard or rule already acquired by the mind as the best of its kind and stored up as such; and which, when the other is introduced, is brought up as by affinity to be the standard of measurement, and whereby *the character* of this other is pronounced as the intuition of difference when the comparison is thus made.

There can be no exercise of Reason, then, apart from relativity, *i.e.*, apart from two or more objects brought into some kind of relationship. The apparatus which belongs to the mere child, or rather, which is not yet developed and matured in the child, is able to take in only facts—insulated facts, irrespective of related elements; but by-and-by, as said apparatus makes progress towards the maturity of its growth, it is fitted to take in the things associated with the facts, or in some way related to the facts, and to retain the same. Hence the cognition of relations, whether as the relations originally associated with the first acquisition of the facts, or the relations of resemblance, whereby like draws like by affinity to itself, from the storehouse of impressions: Hence the basis of reason, strictly and exclusively so named, whose office is the cognition of relations, whereby to pronounce upon the fitness or suitability, or otherwise, of one

thing to another. This is the province of Judgment, whose prerogative it is to declare the findings of Reason.

But here we must be permitted to indicate what we cannot but regard as of essential moment in arriving at a sound, clear, and complete view of Reason, viz., the grand distinction betwixt man and the lower animals. The lower animals have the foundations of reason in what is called Instinct. Instinct is to them what Reason is to us; and the same definition, so far as it goes, would with propriety describe both. Instinct, as well as Reason, is *the cognition of harmonies* as attachable to some present and prevailing idea. But there is this fundamental difference, as a general rule betwixt Instinct and Reason, that the former is confined to the relationships of the *me*, while the latter is extended not only to the relationships of the me, but also to the relationships of the *not-me*. And here lies radically, we presume, the difference mentally, betwixt the lowest stage of man, and the highest stage of the brute, that man in the exercise of his understanding can cognise the wants, the ailments, the general and special states of the *not-me*, as well as those of *self*, and, consequently, discover what are the appropriate applications as relations suitable to said states; while, as a rule, the brute is confined to a cognition of the wants, the ailments, and other conditions of *self merely*, so far as to see and to look for what is adapted to supply its felt necessities. No doubt there are certain well defined states in which the brute sees certain wants of a certain *not-me*, as when the parent feeds and protects its young; but it is observable that, as a rule, this law (as a wise, yet wondrously special provision) has its operation developed only under peculiar circumstances. Hence we say that the relationships which belong to the province of Instinct, are necessarily very few and very contracted as to their sphere and their extent of operation, compared with the indefinite sphere to which the Reason of man extends. If Instinct has to do with those relationships merely which pertain to the immediate necessities of *self*, and if Reason has to do with these, and also with those of all the objects of human cognition, it must be obvious at once that the latter has an endless field of exercise, while the former must be very definite and circumscribed.

All we have now advanced applies to the terminology we employ in describing the operations of mind, and, therefore, to

the nature and character of those categories of mind of which the terms are meant to be the exponents, or rather, the expressions. There are other considerations on this head. We might have something additional to introduce in respect of the terminology applicable, not to a single idea with its accompanying sensation, but to a combination of ideas into a single *nexus*. The expression which we regard as descriptive of this combination of ideas in the sensorium, as applicable to form, is *thought;* and the correlative to this in pure Intellect is still *Cognition*, or *Knowledge* when the Cognition is appropriated as a part of the intelligence of the Ego. *Thought* is different from *idea*, in that it is a plexus of ideas bound up in the bundle of one definite expression of meaning, which arises under the joining together of certain ideas; and as we have said, we have no term for the reception of this *plexus* by Intellect, but still the one term *Cognition* with its inseparable Consciousness. Thought then, as a *form*, is of course accompanied with its own Sensation as a *force* or operation on the territory of the Sensorium; and correlative to this is Cognition with its own Consciousness on the territory of pure Intellect.

Farther: as regards *the application of Intellect* to any object or representation as brought to the Sensorium, in virtue of which Intellect lays hold of the object or representation in question, and so comes to have a consciousness of it, there is the same correlation betwixt the two categories in question. It has to be noted that the *application* of Intellect in the circumstances is only an attitude, and as such there is but one term; but that term has one epithet with reference to the Sensorium, and another with reference to the correlative exercise in Intellect. For example, in Perception, the application of the organ of bodily sense to an outward object (which is but the connexion of the sensorium with that object) is termed *Observation;* and the correlative to this in Intellect is *Attention*. The former implies the use of the senses in order to *lay hold of* impressions from the external world; the latter implies the immediate application of Intellect *to lay hold of* ideas for the purposes of cognition. A corresponding attitude is needful in the exercise of Imagination; and we have a corresponding terminology. There is the *application* of what may be called the inner organs of sense to the inner storehouse of impressions,

just as there is the application of the outer organs of sense to the external world, and this application of inner sense is called *Cogitation* or *Reflection*, while its correlative in Intellect of both is properly *Attention*, as being the laying hold of ideas for the purposes of cognition.

We do not here take up the question as to the *fons et origo* of Intellect's operation as a moving power: that we believe may be scientifically accounted for, by considering, first, that the animal organism of the body is kept alive through the pre-existing organization of the world: second, that the sensorial activity of the Brain is kept alive by the normal activity of the body, and finally, that the conscious activity of Intellect is kept correspondingly awake by the sensational economy: the world, the body, the sensorium, and Intellect having all, in successive agency, a bearing of the one upon the other for its life. Hence when any idea is brought forward whose characteristic is (for example) a want to be supplied, the *attitude* of Intellect, and therewith the attitude of the instrumentality whereby observation or reflection is to be exercised, is modified accordingly, so as to look out for, or draw to it, those impressions of which it stands in want. The influence of affinity we say is sufficient to account for the operations of mind in this way, just as by this motive power we account for all operations in the manifestations of natural law. But as to a scientific formula of causality, we shall, by and by, have to say a few words. What we have now to insist on is this, that if the distinctions which we have now pointed out, in examining into the precise exposition of the terms employed in mental philosophy are correct, they must go far to confirm the view that we have set forth, *first*, that Intellect is a totally distinct and separate substance or entity from mere cerebral matter, in that its characteristic (consciousness) is quite distinct from any mere matter of which we have the experience: *second*, that while thus distinct, and standing in a category *per se*, it is yet not to be regarded as so refined, or so subtle, or tenuous, as to be beyond the reach of acquiring a cognition of material states. This latter fact it is of unspeakable importance to weigh well; for nothing has more impeded the march to a scientific exposition of mental philosophy, and of theology, than the difficulty (which has kept the learned from receiving the dogma) that the soul is indebted for its acquisitions to material.

states; and this difficulty, moreover, has the rather prevailed, lest we should, by admitting this much, fall into the doctrine of materialism. If a little reflection were but spent on this topic, it would be found that material states as such are one thing, and the representation of these material states in a different ground is quite another thing; that material states as such, in their crass and literal composition, must needs go to corruption and decay, but that the *representation* of these, in a refined and attenuated element, whose unsullied forms (righteousness) are maintained by the sphere in which it comes to reside, need not go to decay; but, while unquestionably it may lose certain representations when the means of retaining them, or the agency for maintaining them, is no longer available, that it may yet hold fast, world without end, those cognitions which the economy of being it lives in, or comes to live in, is fitted to sustain.

Our sketch of the economy of Intellect, and of its mode of operation, would be imperfect if we did not advert to what have been improperly termed "the active powers," as well as "the intellectual." There is the *emotional* in man as well as the *cognoscent*. Whence comes the emotional? It is noticeable that it is *a totally new force* quite different, or at all events quite distinct, from mere sensation, or from the consciousness which is correlative with sensation; and, farther, that it is absolutely dependent on certain pre-existing states. These pre-existing states may be briefly described as some special condition of self on the one hand as a base, and some idea or ideas on the other hand, as ingredients commingling with that base, and which thus have been brought into a particular relation to self. As to self, it will be tolerably evident that it is *fundamentally* made up of that which constitutes the representation of our bodily condition, which representation, as bearing along with it what is called temperament, is reflected on, and is therefore characteristic of Intellect. And, secondarily, this fundamental self comes to be modified or attempered by the principles which we receive under educational training, and by the acquisitions of our varied experience in the world. Thus then *self* stands in direct relation to every idea which enters the sensorium; and it becomes more or less acted upon by ideas, according to the particular relation in which they may happen to stand as affecting self. Consequently the idea which enters the sensorium is

to be regarded as forming with that temperament which constitutionally belongs to self, an emotion or new excitation more or less apparent, according to the character of the idea received. We see then that emotion is a new impulse or force, more violent as a rule than mere sensation; and the character in which said force is manifested, whether as an appetite or a desire, or an affection so called, follows according to the precise idea or ideas through which the emotion happens to have sprung.

It is not our purpose here to descant upon the variety and character of our Emotions. What we have to say is, that they are all of them produced on the territory of the sensational; and of course Intellect is correspondingly affected by them, not simply as having a cognition of them, for that would not be the proper term, but as having a correlative *feeling* of them. Hence we are disposed to say that Feelings express in pure Intellect what are indicated by Emotions as pertaining to the sensorium. Emotions are frequently little else than the ebullition produced by the presence of some irritating or disturbing idea or ideas; and when they are carried to excess they are termed Passions; and while there may sometimes be a contest of contending impulses among the inferior emotions, one of which only can terminate in volition, there is for the most part, at all events in all free spirits, a counteractive emotion under a moral or spiritual intuition, which arises to control or to direct the inferior for the purposes of determination. *Will* is the name in Intellect correlative to the determinating emotion, and as there can be no determination without *form*, in respect of some idea embodied, as well as *force*, so we would say *Sentiment* is the form with which Will, as a force, is inseparably conjoined.

Section IV.—The Rationale of Causality.

We have only to add on this important point that, apart from the exposition now offered, as to the fact of the Ego being, on the one hand, a purely subjective economy, made up of the knowledge which it happens to have attained; and, on the other hand, as fundamentally receiving the material of its knowledge from a source objective to itself; and as preserving its operative character, through its cerebral instrumentality, in virtue of the mental furniture—the ideas and thoughts—with which it stands

correlatively built up under the name of knowledge, we find in this connexion of body with intellect a thoroughly consistent scheme, harmonizing with all we know of the relationship of the body to the mind, and of its influence thereupon; and, again, of the relationship of the mind to the body, and of its power over the same. Let us, as briefly as we can, look into these processes of operation; and having before us certain clear, consistent, and well defined principles of Causality,—principles which have their validity maintained, not in one department only, but in *all*—not in the region of Physics only, but in that of Physiology also; and not in Physics and Physiology merely, but in Psychology also: we can appeal to them as principles of causality, which have their *universal* application in all the developments of natural law.

One principle of Causality to which we appeal as the foundation of all *operation* is AFFINITY. But why operation? We answer, out of affinity proceeds either attraction or repulsion as the expression of the phasis or feature presented by two or more distinctive qualities when they come together. Before affinity can operate, it is essential that there should preliminarily be that *conjunction* or *contiguity externally*, whereby the separate qualities are brought within the sphere of each other's influence. If the sphere of influence in gravitation and light, for example, operate inversely as the solid content multiplied by the square of the distance, it is obvious that the extension of the influence of a body must diminish as the square of the distance. In this case, the Ether, which underlies all positive material substance, taking on the characteristic affection of the material quality, constitutes *the link of union* whereby one quality touches and affects another, and consequently whereby the mutual action of the qualities is manifested. But again: in order to the free operation of different qualities of substance, or as we would popularily say of different substances in a combination, the contiguity or conjunction must be much more immediate, much more proximate and close, while of course, moreover, their operation depends on the respective conditions of the qualities in question. In order, then, to the operation of any definite causality there must first be the ingredients in a certain determinate condition: second, the ingredients in a certain *nearness* or proximity to one another in a combination: and third, the

ingredients in a certain *order* of nearness; for according to the order or rank in which they stand to each other, that is according to the order of the *external* relation, so will they affect each other, and so will the result be accordingly modified. What then constitutes Cause? We answer the *external* relation of the ingredients as having an *internal* affinity to one another. The *external relation* consists in the conjunction or contiguity of the factors, and the order in which they happen to be joined to one another. The *internal relation* lies in the precise character of the affinity which the qualities of the separate factors hold to one another, and which the conditions of those qualities may happen to modify. *The operation of these conditions, thus brought into combination, we call Cause; and the fulfilment of their function, we call Effect.* The effect is the phenomenon produced under the law of their operation.

Having thus briefly laid down what we regard as the Formula of Causality, and, consequently, the principles of Causality, we should proceed to apply them. But ere we do this let us pass briefly in review the doctrines which have prevailed on this deeply important topic by the views of Mr. Hume. Mr. Hume was perplexed by the subject of Causality. He says, "were ideas loose and unconnected, chance alone would join them; and 'tis impossible the same simple ideas should fall regularly into complex ones (as they commonly do) without some bond of union among them, some associating quality by which one idea naturally introduces another." Yet he adds—"nor are we to conclude that without it, the mind cannot join two ideas." Speaking of Association, he says, "the qualities from which this association rises, and by which the mind is after this manner conveyed from one idea to another, are three, viz., *resemblance, contiguity,* and *cause and effect.*" "'Tis plain (he goes on) that, in the course of our thinking, and in the constant revolution of our ideas, our imagination runs easily from one idea to any other that *resembles* it, and that this quality alone is to the fancy a sufficient bond and association. 'Tis likewise evident that as the senses, in changing their objects, are necessitated to change them regularly, and take them as they lie *contiguous* to one another, the imagination must by long custom acquire the same method of thinking, and run along the parts of space and time in conceiving its objects." And as to his third power of

association, he says, "there is no relation which produces a stronger connexion in the fancy, and makes one idea more readily recal another than the relation of cause and effect betwixt their objects." It is observable here that Mr. Hume separates *resemblance* and *contiguity* from the category of causality, whereas they are preliminary principles, without which there can be no causality—*resemblance* as an internal relation simply marking the similarity of condition, and, consequently, implying the principle of Affinity as existing betwixt two ideas, and in virtue of which the one is attracted to, and therefore associated with, and so lays hold of, the other; and *contiguity* marking the proximity essential, as an external relation, to this operation, and without which affinity cannot come into operation, while the function is neither more nor less than an example of *cause and effect.*

While Mr. Hume erred in setting forth *resemblance* and *contiguity* as separate from *causality,* he says, "of the three relations above-mentioned this of causation is the most extensive." Speaking of the principles of union or cohesion among our simple ideas he says, "here is a kind of *attraction* which in the mental world will be found to have as extraordinary effects as in the natural, and to shew itself in as many and various forms." It is hence obvious that Mr. Hume had really got hold of the principle of Affinity, as comprehending attraction and its opposite repulsion; but as to "the causes of attraction (he says) they are mostly unknown, and must be resolved into *original* qualities of human nature which I pretend not to explain." Granting that we had no means of explaining this operation of Affinity, still it would be a matter of immense moment to be able to lay down the dogma, that there is an affinity betwixt the various qualities of substance, that out of this is effected that *composition* which we find to exist in the world; and that the composition which we find in the world is simply the phenomena or effects which arise from the operation of causality.

Keeping to the connexion or association of ideas, Mr. Hume says, "those complex ideas which are the common subjects of our thoughts and reasoning, and which arise from some principle of union among our simple ideas, may be divided into *relations, modes and substances.* Under the head of "Relations" Mr. Hume comprehends *resemblance, identity, space and*

time, quantity or number, degree, contrariety, cause and effect. Under the head of "Modes and Substances," Mr. Hume says, "we have no idea of substance distinct from that of a collection of particular qualities, nor have we any other meaning when we either talk or reason concerning it." Again, he says, "the particular qualities which form a substance are commonly referred to *an unknown something* in which they are supposed to inhere." Mr. Hume very closely touches the truth in these words, though he yet speaks of this "unknown something" as "a fiction" that might not be realized. We cannot enter here upon what might be termed the philosophy of substance, but we will venture to say, that every man who has the use of his senses, has the idea of substance—an idea, as Mr. Hume properly supposes, not gathered by one sense simply, but by means of all our senses combined, as conveying to us the various qualities of which positive substance is composed; and saying this, we will venture to affirm that, logically, Mr. Hume ought fundamentally to have settled the question of Substance, and of the modes or conditions into which it is dispesable, before he discoursed on the Relations of substance. If we are ever to attain to a rational understanding of this great question, we must first of all attain to a clear definition of what is Substance. Without turning aside to examine the process of our principles here, we would say that Substance fundamentally is both negative and positive—that negative Substance is not directly perceptible to our senses, and is only knowable from an examination of positive substance, and that, by an abrogation of the contingent, we reach the uncontingent or the unconditioned, which has, as such, and can have, no self-operation of its own, and therefore no inherent law of self-operation of its own, but that it has, as its absolutely inherent property, *the capacity* of operation, its two-fold attribute being potentiality and the susceptibility of receiving positive qualities; and so through these the faculty of giving expression to them. This unconditioned then is to be regarded as the foundation of positive substance, in other words, as the *substratum* in which positive conditions inhere. Hence positive substance is to be regarded, even as Hume points out, as "a collection of particular qualities," and we add, qualities inhering in this negative substance as the absolute foundation of all positive substance. And if negative

substance, as operative, *is* traceable to its one attribute, viz., potentiality or the capacity of force; so positive substance, while of course derived from some more fundamental quality or qualities, *may be* traceable to one positive attribute, viz., a Primary Quality, as the spring or source of all derived quality. What we say then is this, that if all the qualities of substance, cognisable by our senses, are derived from one original and fundamental quality, all these derived qualities, as the offspring of a primordial parent, *must have a relationship*, a blood relationship, and hence an affinity more or less proximate,—an internal relationship, in virtue of which, as being a *resemblance* more or less close, they must have an attraction for one another, according to the normal states or modifications in which they stand to each other. Consequently, it is obvious, that as conditions or subconditions come to be imposed on an existing quality, it is but natural to suppose that there would arise an aversion, *i.e.*, a repulsion, in this condition to other qualities that had received a different process of generation. The multiplication of qualities from one primordial quality, like the multiplication of races from one primordial family, would exhibit a general unity and inherent affinity in its composition; and the likes and dislikes,—the preferences and aversions, would constitute the natural basis of operation in the kingdom of nature. We find it to be even so. We find that according to the conditions which come together in any given combination, so is the law of operation defined which happens to prevail therein.

And now a word with respect to Mr. Hume's *Relations*. He defines a relation to be "either that quality by which two ideas are connected in the imagination, or that particular circumstance in which we may think proper to compare them." We would not say that relation is a "quality;" and assuredly it is loose to speak of relation as "circumstance." Nor is it philosophical to speak of it as the connexion of two ideas in the imagination; for though we cannot think of relation but under such a connexion, still it is proper to regard it, not as simply a mental state, but as an objective alliance, of which the mind has an apprehension. Relation may fairly be regarded as the *incidence*, the *bearing*, the *significance*, which one quality has to another. But this definition fails to cover this important word, or at all events to distinguish its separate departments. Relation belongs

to two departments: the one internal, the other external. *Internal* relation is that kind of alliance, filiation, or family connexion which marks a quality as of the race, stock, or lineage of another; and having a derivation, indicates a *resemblance* in brother-hood or generation to that quality with which it is compared, and with which it claims affinity. To this category belongs what may be called *the relationship of Condition*, when the same quality may be manifested under a variety of different conditions as solid, liquid, gaseous, &c., and its operative affinity is changed accordingly. *External* relation again indicates what we may call *local adjustments*, when one element is near to or distant from another or presents some attitude which particularly affects the internal relation of one thing to another. The external relation has respect to the kind of outward combination which happens to be made to subsist betwixt two or more factors, *and which must always be formed before the internal relations can operate.* We would lay down this as a maxim, that Contiguity or Conjunction, as an external relation, is absolutely pre-essential to constitute the *operation* of any law, in that this constitutes the appliance of the particular internal relations, out of which all the activities of Causality are manifested.

As Mr. Hume is at fault with respect to his definition of Relation, so he is at fault with respect to his list of relations. This list we have seen comprises *resemblance, identity, space and time, quantity or number, degree, contrariety, cause and effect.* We admit that *Resemblance* is a relation; but wherein does it differ from *Degree*, which points to the different shade of intensity in respect to the character of any quality? We doubt whether *Identity* is properly to be termed a relation, though it be that foundation without which no relation could exist. Were there no other object but one in the universe, that object could have no relations, because relations imply something not of self. It may be asked how can identity be ascertained; and in fact how can anything be known unless by its relations? Identity is sameness in the relation of time and space: but the sameness is not a relation: the sameness is merely *the continuance* of a fact without change. If then we make identity a relation, it after all sinks into the category of *time*, and does not touch the primary constituting of the fact. *Space and Time* are relations; but unlike to the relation of quality, they are

purely abstract and external relations; and because abstract, they therefore do not change the operation of causality in any respect; for if condition remains the same; and if *local* relation (that is contiguity) remains the same, the self-same result must *always* and *everywhere* follow: that is time, or space, as abstract, enters not into the category. For what is mistakingly called *time*, as really involved in a question of causality, is but *the change which has taken place in the condition of the ingredients themselves*, in comparing a combination of factors at two different periods. Again: as to calling *Quantity* a relation, just as to calling *Quality* a relation, there is in point of fact the relation of quantity, as when one bulk is compared with another; just as there is the relation of quality when one essence is compared with another; but then this sinks into the question of *degree*; degree, therefore, is a relation which pertains to the external and also to the internal category. We would not say, for example, that *Number per se* is a relation; yet it is that category out of which an infinite series of relations is formed. And so Quantity is properly that category out of which endless relations may be formed. We can abstract number and represent it symbolically, and out of it form a science perfect and exact; and this because the extreme simplicity of the relation is, as far as it is a relation, one of number with number: this relation being affected by no other. We can in like manner abstract Quantity and represent it symbolically; and out of it we can similarly form an exact science; exact because the symbols which represent the quantities are hampered or interfered with by no foreign elements: consequently there is present but one kind of relationship: consequently the results must of necessity depend on, and arise out of, that very degree and character of relationship which the Algebraic symbols hold to one another. In like manner we can abstract and symbolize Form, and so constitute an exact science of Geometry. But we cannot correspondingly symbolize Time, because time being dependent on motion, being the phenomenon arising from the transition from one point to another, or from one state to another, as denoting change, we cannot procure a fundamental abstract symbol out of which to indicate the relationships of change which mark the points of Time. Therefore, in order to exhibit the manifestation of Time, we must always have a concrete substance, indicating change of position with respect to

some other substance. The fundamental measure of time in this world of ours is the diurnal motion of the earth with respect to the sun, *i.e.*, a motion indicating alternately a time of darkness and a time of light, the complete circuit of revolution being a fixed interval. This fixed interval we are enabled to divide into twenty-four equal parts by the artificial movements of a well regulated clock. Each of these parts, or subintervals of motion, we break up or apportion into sixty equal sections called minutes; and again these minutes we similarly dismember into sixty equal parts called seconds: these being the smallest intervals we have practically any need for. As there is found no means of practically symbolizing Time, so there is found no means of symbolizing Quality, so as to procreate for ourselves an exact science in this department, as we can for example in the department of Space, of which Geometry furnishes an illustration. That there does exist such an exact science in creation, no one can doubt who has observed the precise and definite limitations wherewith the world generally abounds: limitations as curiously and beautifully illustrated in the framework of our own bodies, as elsewhere in the different departments of nature: limitations which must have been imposed by the Omniscient Creator in adapting means to ends: limitations out of which the laws of substance, in its combination with substance, have their precise and necessary operation: limitations which thus go to constitute the foundation of the laws of nature: limitations therefore in virtue of which God fulfils the purposes or designs of his first thought for the world. That the concrete conditions of substance, as prepared and projected for the world in their multiform combinations under which the laws of nature (as we call them), operate, are but the determinations of *a preliminary science* of creation ere creation began, can hardly be questioned; and that the laws of nature thus projected, as founded upon the definite combination of certain measured conditions, have their limitations thus assigned, cannot be questioned: and that whatever deviations should take place in consequence of the varying developments of condition among the factors of each different combination, (deviations which, by the way, constitute the sources of our freedom, while they give interest and ever-recurring beauty to creation), these deviations, like the ever-varying changes of the kaleidoscope, are after all hedged up and circumscribed by the

nature and number of the combining ingredients, and therefore foreknown in their results. Whether man will ever come to understand the capacities of substance fundamentally, and to calculate beforehand what precise formula will represent the causal combination for fulfilling a given purpose, may perhaps, under the progressive efforts of the past, be regarded as by no means a hopeless expectation. In this great question he is as yet but a child learning, not exactly the use and application of the Alphabet, but the Alphabet itself.

We have said that *Degree* must be regarded as a relation, in as far as it expresses the character of the *resemblance* as near or remote, if it be an internal relation; or the character of the *association* of the ingredients if it be an external relation. That *Contrariety* should be regarded as a relation seems at first not so certain, in as far as contrariety implies something foreign to the causality in question: yet as it does imply something antagonistic, something not simply on the negative side, but as positively on the reverse side, it may be regarded as the source of the affinity of repulsion as contrasted with the affinity of attraction. Mr. Hume brings in Causality itself as a relation. Why, Causality is that category in which is comprehended the very constitution of relations: it is therefore out of all propriety to speak of cause and effect as a relation. Cause and effect (which two names together make what we understand by the term causality) represent but the phenomenon arising from the constitution of a relationship. It is a misnomer therefore to speak of these as implying relation.

As regards Relation then, we reduce this term as applicable only in two categories, the one bearing on what is *external*, and the other bearing on what is *internal:* the external relation having respect to the kind of *association* under which certain conditioned elements come together, and the internal having respect to the kind of *affinity* pertaining to the said combining elements, which affinity constitutes the *operative* or *motive* power in causality. We come now to consider Mr. Hume's views on what he calls "the idea of necessary connexion."

"There is no question (he says) which on account of its importance, as well as difficulty, has caused more disputes among philosophers." He asks "what idea we have of that *efficacy* which is the subject of the controversy?" His belief is that it

is derived from experience; for he thinks "the supposition of an efficacy in any of the known qualities of matter is entirely without foundation." He thinks it "impossible in any one instance to shew the principle in which the force and agency of a cause is placed," and he challenges with defiance the discovery of "a power or operating principle." He oddly enough tells us that the *essence* of matter consists in extension; but that extension properly "implies not motion, but mobility." "The Cartesians (he says) have had recourse to a Supreme Spirit or Deity, whom they consider as the only active being in the universe, and as the immediate cause of every alteration in matter." He refutes this supposition by saying that, if the idea of Deity be like every other impression, then it is impossible to discover an active principle in the Deity! The same conclusion, he holds, is unavoidable as regards an efficacy attributable to second causes; "for if we never have any impression that contains any power or efficacy, we never have any idea of power." Nor will he allow that the notion of power is acquired from the operations and volitions of the mind obeying the will; for "there is no discoverable connexion betwixt the cause and its effect, betwixt the act of volition and a motion of the body." The actions of the mind he regards as in this respect the same with those of matter. We perceive only their constant conjunction, and can never reason beyond this. What Mr. Hume desiderates is the foundation of power: Whence does it spring? Hence also he desiderates a comprehension of the *connexion* betwixt two objects, if operation be the result of their conjunction, so as to shew whence the operation comes, and so as to demonstrate the absolute impossibility for the consequent not to follow upon the antecedent. As he despairs of finding this, he concludes on the one hand that we deceive ourselves in imagining that we can form an idea of a being endowed with intrinsic force and energy; and on the other hand that it is from a multiplicity of resembling interests that we gather the idea of a necessary connexion betwixt antecedents and consequents. "After we have observed the resemblance in a sufficient number of instances, we immediately feel a determination of the mind to pass from one object to its usual attendant. This determination (he says) is the only effect of the resemblance, and therefore must be the same with power or efficacy, whose idea is derived from the

resemblance." "Necessity then is the effect of this observation, and is nothing but an internal impression of the mind, or a determination to carry our thoughts from one object to another." In short, necessity (with Hume) is something that exists in the mind, not in the objects: it is but a determination to pass from causes to effects, and from effects to causes according to their *experienced* union. It belongs not to any energy in the causes, or in the Deity, or in the concurrence of these, but to the mind simply as considering the union of the objects in all past experience.

Hume was perfectly sensible of the paradox here proclaimed; for it was ascribing as a cause that which he knew to be no cause, and making our nature a delusion in one of the most universal of its conclusions. Moreover, in declaring that no connexion whatever can be found betwixt causes and effects, he pronounced not only a paradox, but the utter impossibility of solving the problem of Causality. He defied the solution by denying the very datum on which alone the solution hangs. He held that "necessity is something that exists in the mind, not in objects; nor is it possible for us ever to form the most distant idea of it as a quality in bodies." He held that "the idea of necessity arises from some impression," because it is itself an impression; but that "there is no impression conveyed by our senses, which can give rise to that idea."

It is one of the most remarkable phenomena of our thinking that, on a subject of this sort, so much perplexity should exist. Hume puzzled himself; and he has managed to puzzle others, in endeavouring to analyze the question. The dissertations of Kant and of Sir William Hamilton on this subject have only served to render confusion more confounded by the treatment which it has received. We have just quoted Hume affirming that it is "not possible to form the most distant idea of *necessity* considered as a quality in bodies." It seems to us strange that such an expression should have found utterance from so acute a philosopher; and passing strange that the equally acute philosophers who have followed him, should have countenanced such an utterance, and have driven their sharp wits to despair to find an answer to the question *πόθεν τὸ ἀναγκαῖον*? It seems equally tantalizing with the question *πόθεν τὸ κάκον*? Does not a moment's consideration shew that *the question of neces-*

sity, as an impression, *is purely a question of reason*—of reason as being indeed a conclusion of the mind: yet of reason as applicable to the condition of the objective as hanging on a question of fact? The ultimate basis of necessity is this, that *a thing must be what it is.* This is the conclusion of every reasoning mind; and it *must* be so; for it is the generic foundation of all conclusions whatsoever on the question of necessity. If this conclusion be questioned, then all affirmation and denial are at once sent to the bottomless pit of despair, without hope of retrieve. But it is not in the nature of things possible to question this conclusion; for the very questioning of its accuracy must needs rest on such a datum in consciousness, and therefore on the fact that said datum must be what it is, and cannot be what it is not. Here then we have *the ground of necessity* sufficiently realised, and made manifest. Necessity is a conclusion of the reason; and that as to the phenomenon of an allowed fact. Whatever we admit to be a fact, becomes to the mind of him who admits it, something against which there is no disputing. If I see a picture on the wall, necessity is laid upon me to regard it as a picture on the wall; I cannot bring myself to regard it either as not on the wall, or as something else. Necessity is in this case the *first law of my reason*, as powerful as any sentiment of my soul, seeing it is the foundation of my whole process of thinking. It comes to be a totally distinct and different question when the problem is, not whether I see a picture on the wall, but whether the picture necessarily is the wall. Of course it is necessarily on the wall in as far as it is there; but suppose the question were, Might not the picture have been with equal reason upon the floor? Here we refer to that *actual process* of causality in virtue of which the picture is placed on the wall. Now, if we find in examining that process that hands have been at work, that they have fixed a nail in a certain place on the wall, that they have fixed a string in the picture, and that they have hung the string with the picture attached on said nail, I find a causality consisting of a series of elements in combination, and that out of this series in combination the effect is that the picture rests upon the wall. What is the causal *nexus* here, but *the conjunction of so many factors*, EACH ONE OF WHICH MUST BE WHAT IT IS, *in its relationship to the others; and the result therefore must be what it is, as the phenomenal*

co-relation, that is the final effect of such a combination. Mr. Hume may ask where we get the notion of power in producing this effect. The obvious answer is that we have experience of the exertion of power in using the hands, in driving the nail, in lifting the picture, in fixing the string. But suppose he were to say: All these acts are but themselves phenomenal, and therefore nothing more than mere effects; where do we find that power out of which these acts arose? We are driven in that case to look within ourselves, when we behold a conscious mind at work, operating on the body, and through the body on things external. Here, as before, we say, "*a thing must be what it is.*" Therefore the conscious mind must be what it is: its prerogative of seeing what is wanted, and therefore of forming purposes, must be what it is: its power of adapting means to serve a purpose must be what it is: and the exercise of will in adjusting means to an end must be what it is: we cannot help therefore being cognisant of power, as thus consciously exercised. But Mr. Hume interposes once more and says, it is all very well to speak of power as a fact: that fact is not disputed; but what is the primary spring in virtue of which power comes into being as something which had no being before? What is the cause in virtue of which such an operation, for example, as *will* exists? What is the cause in virtue of which such an *idea* as a picture on the wall exists? What is the cause in virtue of which such a phenomenon as a *purpose* arose to being a picture on the wall? Where do we see, or how can we lay hold of the potency in virtue of which we have thought or will? Is our philosophy capable of answering this question? No doubt, in the nature of things, potentiality, as the *capacity* of power cannot be seen itself, for capacity as such is an attribute which lies *in gremio*, and therefore hidden till exercised, and it must have a ground of utterance to bring it forth into manifestation. Farther, we agree with Mr. Hume in thinking that power does not belong to quality as an abstraction so considered; for as an abstraction it has no real existence, no concrete existence. What then we say is this: As power does exist as a matter of recognized and acknowledged fact, it must be traceable to some definite source; and in the discovery of that source, we must find a systematic rule of operation, as the law whereby it is manifested. We believe that this is found in the recognition of the one

essential attribute of the Unconditioned, as being universally the *potential* basis, receptive and expressive, of all that is positive in nature, and giving practical validity to all that is positive in nature, so soon as quality is introduced, or is in the act of being imparted. We believe that, when this ascription of inherent or inalienable potentiality, or sleeping energy, as the boundless *capacity* of power, is regarded deductively, for the foundation of all substance, it will be found scientifically to account for all the *forces* prevailing in the world. The mere unconditioned, of course, *per se*, being essentially and emphatically negative, can have no manifestation as such; and for the reason that there is nothing to shew: yet no sooner is the positive introduced (we do not say *how*, for that would be tantamount to intimating the mode of creation), than it must be obvious that said positive, as a quality inhering therein, obtains its expression or panorama thereby. This very fact of *expression* indicates power. It is impossible to conceive the existence of any quality, as a reality in nature, without positing at the foundation that energy in virtue of which it subsists as a reality. Hence we cannot suppose the possibility of abstract quality, apart from the substratum in which it inheres, and by which it obtains a literal existence; but, on the other hand, so limitless is the capacity of this potentiality, that whatever may happen to be the complexion, however varied, of which any quality is susceptible, the fundamental energy can, and does, give validity thereto. It is easy to suppose, indeed this is matter of daily experience, that any one quality should admit of a number of modifications, as so many conditions of the same quality, each having a possible extent or limit within the sphere of said quality; and varied, therefore, in their affinity toward each other, according to the nature of the modifications. It is farther easy to see that the varied modifications of the self-same quality (which modifications, as we have said, constitute so many internal conditions), must have a necessary relation to one another, as being obviously derived from one and the same fundamental quality, and therefore must have a corresponding affinity, as expressive of that relation. In precise correspondence, it is easy to understand how, granting that there were fundamentally laid but one vast generic quality, there might thence be generated the separate and special foundations out of which our material economy is

built up; and, if so, these separate and special foundations, as being made the generic foundations of properties yet more special and peculiar, must be regarded as having themselves an affinity for one another, as expressive of their relation to one common origin. Hence, as we have said, the very law of their being, as created substances, a law in virtue of the universal potentiality which pertains to the primordial Unconditioned, as the absolute basis for all positive substance, must be that, when qualities of different kinds come together within what may be called the category of their sphere or extension, *i.e.*, when they come into some sort of contact or conjunction, *they do of necessity express the kind of alliance which their communion naturally declares*, as indicative of the affinity which the one quality bears in its affection for another. And this phenomenon seems to be no less pointedly and peculiarly manifested in the department of mind than in the department of matter.

As regards *matter*, it seems obvious enough, from our point of view, that a general basis of quality having fundamentally existed, and therefore primordially and eternally existed, as the Absolute Positive out of which all the properties of the All-Conditioned have their subsistence; therefore that general basis of quality had been posited which should constitute the *primary plenum* out of which all the varied material states might be generated, the outer characteristics of which must be form of some sort as the limitation of mere objective extension.

As regards *mind*, it seems to us equally obvious, from the fact (which we consider as a logical and necessary conclusion) of the All-conditioned having and holding, as the essential prerogative of its being, that intellectual quality which forms the subjective mentalization of its own objective existence, and which indicates a consciousness of its own absoluteness, that a fundamental basis of physical quality having been correspondingly laid to be the ground of materialism, and to be moreover the *subject-matter* for all mental states, an affiliation of intellectual quality was superimposed in the case of animal life, that it might receive the characteristics of said subject-matter, as the *νοήματα* pertaining to intellect. If then we have in the region of mere matter special qualities, separated to become the different departments (as metallic, silicious, &c.,) into which we find the world of matter divided, and out of which respectively might be developed those

various secondary qualities which we know pertain to each department (iron, gold, &c.; marble, granite, &c.;) similarly, as regards the different departments of mind, we seem to see, and not very indirectly, how the various orders of intelligence have their foundation and their form.

Indeed, as it appears to us, we are in position to point to the modes under which the formation of mind is realized, much more fully than as pertaining to the field of pure matter. If it be true, as we hold it to be, that Intellect is the subject which acquires a cognition, and consequently a knowledge, of the states of matter, and of the relationships of existence, then it follows that *mind*, which is the phenomenon of a furnished intellect, *i.e.*, of intelligence, has its characteristic qualities imposed upon it from the immediate bodily characteristics with which it is conjoined. Hence, taking on the complexion arising from the representation of bodily states, and cerebral organization, it acquires, as of necessity, the fashion of the animal nature which it subjectively represents (human, equine, bovine, leonine, &c.,) in as far as each bodily structure, with its peculiarity of temperament, and its extension and characteristic of idea, is reflected thereon. The simple quality of Intellect, as the territory of ultimate receptivity, is obviously the basis out of which is constituted every separate department of mind, as exhibited throughout the arena of the animal economy, under the order of what may be called *genus*, and still farther also of the special peculiarities pertaining to each genus or species, according to the temperaments and inlets of impression which the particular bodily economy happens to possess. Hence the formation of a self-hood mentally, *i.e.*, of a subjective personality which constitutes the Ego. It has often been a theme of wonder, upon the plea of a separately furnished Ego, independent of the body, how every inner feeling so exactly corresponds with bodily states; but upon the plea that the subjective is dependent upon the objective for its formation, as being its correlative, all explanation comes forth with beautiful simplicity. In this way a subjective personality is framed. Bare intellectual substance is not personality, though a subject. Personality arises through the reduction of that subject, from a formless state, into certain distinctive features, corresponding to the characteristics of the individual animal body. From the union, therefore, of Intellect

with Body we have personality gradually and increasingly given to the soul, out of the pre-existing individuality of the body, to which it is attached, and in connexion with the experiences of said body.

We think it will be admitted that, so far as the law of parsimony is concerned, there is here a wonderful provision for the formation of mental states, according to the operations of natural law, and all skilfully arranged and projected to fulfil the purposes of the All-wise Creator. If we can regard this view of the formation of the qualities and conditions of mind as the sound one, borne out by every fresh investigation into the sources of mind, as revealed to us, not merely in the field of philosophy, but in that of theology also, upon every fair and honest interpretation of the Word of God, we have a fresh analogy confirmatory of our view, as to the formation of all the qualities and conditions of matter, from one primary and fundamental Quality, in addition to that furnished by the great facts of Affinity, as declaring a mutual relationship, which must be regarded as traceable to one fundamental parentage; and in addition too to the analogy furnished by the Abstract Sciences, which trace all their relationships to a fundamental one: as for example in Arithmetic, where all the factors are traceable to the unit, and the relationship of the factors comes forth out of the various relationships, in which the unit may be made to stand to itself.

If, therefore, the laws of affinity have their definite and distinct operation in the arena of *mind*, as well as in that of *matter;* if moreover that operation be of a peculiarly refined character, in the wonderful associations of one impression with another; if we see that without doubt the intellectual is directly dependent on the cerebral, and therefore on the physical organization, with which it is so intimately connected, as the instrumentality of its function: if the mental ground, on which pure Intellect operates, has a hold of the physical, for the expression of its ideas and sensations: if the varied power and function of this wonderful cerebral organization have the faculty of laying hold, each portion, on its own peculiar kind of impression, for which it is expressly adapted, as we know to be the case in the prerogatives of the outer senses; then may we obtain a glance, not merely into the *modus operandi* under which mental states are conducted, but have some insight into the process whereby Intellect

comes to be replenished with that knowledge which, with the peculiar temperament each happens to possess, constitutes in every case the ground of a man's individuality. The great difficulty is, and must be, for the philosophers of a pure idealism to receive the maxim, that the intellectual is fundamentally neither more nor less than the development in consciousness of an existence preliminarily, and, in a sense, independently, existing. It is easy to question this or to deny this: it is easy to point to what are supposed, but improperly supposed, to be "the independent operations of the higher reason;" and it is easy to shew how many of the various evolutions of the material world, and of the social state, are dependent on the efforts of intelligence. We grant this to the uttermost; and yet we are prepared to maintain, that the true dependence and concatenation of operative energies for the purposes of mind are, *first the world*, as it has been *conditioned* and *formed* by the great Maker and Architect, and whose operations are fulfilled in virtue of the very laws of its existence, as a portion of the economy of God's works; and, *second, the operations of physical life* as conducted in a physical organization, which physical life is absolutely dependent for its support on what it receives from the world; and *third, the operations of psychical life* as absolutely dependent on both. What we say is, that the exercise of each separate and individual intelligence is essentially and directly *dependent* on the living body with which, as an intelligence, it stands fundamentally associated; and indirectly, through that body, on the great world around, on which the body depends for its impressions, as well as for its sustenance.* That the rational mind of man is capable, by its range of thought, of entertaining purposes, and of seeing the means of fulfilling them; and consequently is capable of

* There would be very little difficulty in admitting the views here propounded, if it were remembered, as it is constantly forgotten, that man, in coming into the world, comes, not with a soul already formed, as many suppose, in miniature, but *to have his soul formed* through the agency alone adapted for that purpose. There is a womb provided for the development of the body; and there is a womb provided for the development of the soul. The body hath the material of its character and form in the *paremchyma*, whose contexture is nourished, and expanded, and developed into a fœtus of definite shape in the uterus of the mother; and, when so far matured, as to be fitted for entering into the larger womb of the world, it is then that it becomes the basis out of

modifying many things, and of devising many things, does not alter the fact, that said intellect is primordially dependent on the living body, wherein its habitat locally stands; and through which also it gets hold of those impressions which form the pabulum of its various cognitions, and consequently the material out of which its various conceptions are fashioned.

It may be said that if mind is thus dependent essentially on matter; or rather, if intelligence is thus the correlate of a pre-

which the formation of mind begins. Nor, as we have often repeated, is mind any mere development from all, or from aught, pertaining to the physical conditions of body; for, were there no special and separate basis for intelligence, there is nothing in body, and nothing in brain, out of which mind could have the most distant manifestation; at the same time Intellect (as the mere quality which gives out consciousness as its characteristic, when disturbed by impressions; and which takes on, as the base of its operation, what may be called the complexion, the colouring, or the temperament of the body with which it happens to be conjoined) could have no cognition, and therefore no consciousness, *i.e.*, no operation as Intellect, if it received no ideas, as the representations of external things. The soul, therefore, is absolutely dependent on the life of the body for its formation, and development, and maturity, in connexion with that particular instrumentality of cerebral matter, with which each body is equipped; and the world, therefore, is the great womb wherein the soul of every creature upon the earth hath its form laid, its construction initiated, its material furnished, its growth promoted, and its maturity (such as it may happen to be) attained. The soul of man should then, as a soul duly trained and formed, be fitted for exercising its *now* innate or inherent prerogatives, in a new sphere where these will be stirred up, and expanded, even as the seed expands into a glorious plant, under the new culture to which it will be subjected. The seed of every plant is a formation out of the pultaceous matter it receives: the seed of man for transplantation into a more refined sphere is the soul formed out of that intellectual ingredient with which he is mysteriously yet unmistakeably supplied. That the soul in that case should be dependent for its operation on the thing that properly gives it birth, is not only natural, but necessary; but when the body dies, as the nurturing element, and the soul survives, as the seed of a new and more glorious life, we can well understand how the new life should be revived and restored, so soon as the sphere whereby it is acted upon and influenced shall be brought to bear upon it. We will take freedom to say here that the framework of soul, that can alone be regarded as properly regulated and fitted for eternal life, is that which hath exercised faith in Jesus Christ, or, in other words, is filled with the righteous principles of Christianity. Most true is it, that the soul which "is born (or begotten) of the flesh is flesh (carnal), but that which is born of the Spirit is spirit" (divine).

existing physicism, that we drive our argument to a conclusion, which cuts and destroys itself,—that we conclude for physicism as the Absolute Basis of all things! Mark our answer. If we consider the question for a moment, it will be seen that mere physicism is helpless. For first, let it be noted that physicism cannot produce the subject intellectualism. If we push our argument to the uttermost, we logically come to this, that there is *absolutely* a physicism which lies as the basis and fountain of all physical conditions; but that said ultimate physicism has, in direct association therewith, an intellectualism, as the mental exponent of its quality, and character, and function. What is this but the Absolute as positive, that which lies as the Foundation of all, the Original out of which all possible conditions have their primary formation, and to which they are all fundamentally traceable? The character of the Absolute, as *positive* beingness, would then stand before us in perfect analogy to the facts represented in our own persons. In our own persons we have the physical and the intellectual: first, the physical as a distinct and definite formation, and then the intellectual as grounded thereupon, as the light of the characteristics of the physical, and its correlate in consciousness. In this way then we say, there can be no intellectual as an intelligence without a pre-ordinate physical, to be the subject of intelligence. And in this way we come logically to the very Absolute, and say, that we are taught to believe, that *the fundamental intellectualism of the First Cause of all, is the intelligence of its own conditions*, that is, the intelligence of that nature, out of which the whole region of created nature, physical and intellectual, has taken its rise.

What essentially may be the precise connexion betwixt that which we call the physical and the intellectual, we do not pretend to say, farther than this, that there is the possibility of purely physical nature *per se*; but that it is impossible, on the grounds we adduce, that a *purely* intellectual nature can exist *per se*. For what is intelligence? What, but the consciousness of physical conditions and relations, and through this, the consciousness of its own mental states? If we call the physical, *that out of which unconscious nature is formed*; and if we call the intellectual, *that wherein the consciousness of said nature is manifested*, then the intellectual is primordially the lofty accompaniment of said nature, or rather the crowning seal

to said nature, in as far as, like the prepared wax, it is the recipient of the characteristics, and the mental exponent, of said nature: it is what we may call the subjective display of an objective economy. Without intellectualism there could be no subjectivity, even as without physicism there could be no objectivity. Both are essential: objectivity as properly and intrinsically *existence*, and subjectivity as the conscious acquisition, or correlative *cognition*, of that existence; while at the same time also, it becomes a manipulator as intelligence, in fulfiling its own purposes, and in supplying its own wants, in displaying its own powers, and in exalting its own glory, in and through said physicism.

BOOK I.

THE PHILOSOPHY OF THE CONDITIONED.

CHAPTER I.

THE CONDITIONED.

SECT. I.—SIR WILLIAM HAMILTON ON THE UNCONDITIONED.

PERHAPS there is no portion of the writings of Sir William Hamilton, which more profoundly endeavours to probe to the consideration of first principles, than his article on "the Infinito-Absolute of Cousin," which was inserted in the *Edinburgh Review*, so far back as October, 1829; and which, he informs us, he regarded at the time as "unintelligible, not only to the general reader, but with few exceptions to our British Metaphysicians at large," which article, along with his philosophical appendix on "the Conditions of the Thinkable," and his discussions on Causality, we cannot help regarding as among the most unsatisfactory of his productions. Not, indeed, that we think there is less thought bestowed on these papers than is generally to be found in his philosophical writings; for the contrary is the case, and they require the metaphysician's utmost skill to undo the tangled web of laboured ingenuity which characterises them; but because the ground-principles which he took for granted, and on which he took his stand, and which, of necessity, fettered every inference hanging thereupon, and which would have been otherwise displaced, do not, as it humbly appears to us, legitimately bear the substantive and realistic character which he has assumed for them. Even granting his fundamental premises, it is perfectly true that comparatively

few have been able to follow him through those dissertations with anything like enlightened conviction; yet his judgment would seem to have been only the more probably submitted to, as the very inquiry demonstrated the weakness of mind, on the terms of his philosophy, that "all that can be known either of mind or of matter is purely phenomenal."

Sir William informs us that "M. Cousin is the Apostle of Rationalism in France;" and that "the peculiarity of his doctrine consists in the attempt to combine the philosophy of experience, and the philosophy of pure reason, into one." Assuredly, whatever may be thought of a "philosophy of pure reason," as common to Hamilton himself with Cousin, it is not this peculiarity, viz., the combination of the philosophy of experience, if peculiarity it may be called, which necessarily constitutes its votary "an Apostle of Rationalism;" for nowhere has the foundation and superstruction of Rationalism been laid so firmly, and erected so persistently, as among the philosophers of "pure reason," as apart from the philosophy of experience. But we might ask, in the first place, Can there be a philosophy of experience which is not at the same time the philosophy of reason? In the second place, Can there be a philosophy of *pure* reason as such, and, therefore, altogether irrespective of the facts of experience? In short, Can there be a philosophy of reason, under any circumstances, which is not emphatically grounded on the facts of experience? We have failed to meet with it; and we venture to think that the insulation of what has been called "the philosophy of pure reason," and its separation from "the philosophy of experience," is utterly unwarranted by any data of which we are in possession.

Let it be noted, that philosophy as such, no matter what may be the subject-matter which it embraces, whether things patent to outward sense, or things gathered through inward sense, *i.e.*, through processes of reflection only, always, and of necessity, implies the exercise of Reason. There can be no philosophy without reason. Whether we regard philosophy as illustrated by some external object merely, whose parts we discover as things that have been conditioned, arranged, adjusted, and concatenated by some higher Intelligence, in due subordination and conformity to one another, and the whole in due suitability to the external circumstances in which said object is placed, all

which we learn and apprehend as something existing independent of us, and which, when we learn, becomes science to us; or whether we regard philosophy as the origination, by our own intelligence, of a variety of concepts, it may be with a variety of percepts, in order to the construction of some special object, and in order to the fulfilment of some special purpose:—in each case, and in all cases, Philosophy must essentially be regarded as embracing an insight into a *harmonious combination*, and fitment of separate ingredients for the fulfilment of an end. No one can seek to set forth, and to establish, what he calls *a scheme of truth, i.e.*, a conformity to some original, and as expounding the rationale of said original, but must have the faculty of reason in constant operation. Indeed, the inherent significancy of the term Philosophy is *the Harmony of reason* objectively displayed, that harmony which is produced by the exercise of reason, in the combination of certain elements, as so many separate ingredients or factors, for the accomplishment of a purpose. In short, the dicta of Philosophy on every subject, on matters of pure experience, no less than on those of the highest abstraction, universally proclaim themselves to be the conclusions of Reason.

We venture to think, therefore, that the Kantian dogma, which not only imparts to Reason what is the exclusive property of the Understanding, and which not only makes Reason a separate and higher kind of Understanding, which may not in a sense be denied, in as far as it is a cognition of relationships; but as being that mental power which, apart from all experience, lays hold of those lofty objects which lie beyond the range of experience, and even beyond the characteristics of time and space, as if it had some inherent grasp of thought, absolutely native to itself, of which no account could be given, and for which no foundation could be perceived beyond the fact of its fancied intuition:—this view, which lays the basis of an *a priori* mentalization irrespective of experience, posits the mystery of Transcendentalism as the necessity of our being, and thereby defies the possibility of our reaching a science of mind, and, therefore, defies also an exposition of the principles upon which mind operates, of the principles on which cognition is based, and of the principles which give rise to causality in mental operations; while it desiderates, contrary to the whole economy

of nature, two distinct modes of intellectual cognition which are not analogous in themselves, one for the facts of experience, and one for the dogmas of supersensuous truth. We have no hesitation in adhering to the doctrine, that the highest flights of the rational mind are absolutely dependent on the workings of experience, and are to be accounted for through these; and not only this, but we hold that, grounding all our progress upon experience, we are thus able to advance logically to conclusions, which the Transcendentalist can never reach.

Sir William Hamilton denies the pretensions of a philosophy of the Unconditioned. It might well be asked, if Reason be the revealer of necessary truth, why does it so signally fail in regard to the question of the Unconditioned? He gives "a statement of the opinions which may be entertained regarding the Unconditioned, as an immediate object of knowledge, and of thought." "These opinions (he says) may be reduced to four: 1mo. The Unconditioned is incognizable and inconceivable, its notion being negative of the Conditioned; which last alone can be positively known or conceived: 2do. It is an object of knowledge; but its notion, as a regulative principle of the mind, is more than a mere negation of the Conditioned: 3^{io}. It is cognizable, but not conceivable; it can be known by a sinking back into identity with the absolute, but is incomprehensible by consciousness and reflection, which are only of the relative and the different: 4to. It is cognisable and conceivable by consciousness and reflection, under relation, difference, and plurality. The first of these opinions (says Sir William) we regard as true: the second, is held by Kant, the third, by Schelling, the last, by Cousin."

As regards the first, Sir William says, "the mind can conceive and know only *the limited*, and *the conditionally limited*, and that the unconditionally unlimited (the Infinite), and the unconditionally limited (the Absolute), cannot be construed to the mind, that the notion of the Unconditioned is only negative of the conceivable itself, that on the one hand we cannot conceive an absolute whole so great, that we cannot also conceive it as a relative part of a still greater whole; nor an absolute part so small, that we cannot also conceive it as a relative whole, divisible into smaller parts; that, on the other hand, we cannot construe to the mind an infinite whole, nor follow out in thought an

infinite divisibility of parts; that, therefore, the *infinite*, and the *absolute*, properly so called, are thus equally inconceivable by us."

As to Kant's analysis, he tells us that "its imperfection and partiality are betrayed in its consequences, that it leads to absolute scepticism, in as far as speculative reason, on Kant's own admission, is an organ of mere delusion."

As to Schelling's view, we are told that it requires a capacity of knowledge above consciousness, and higher than the understanding, which knowledge is identical with the Absolute itself; that there is no distinction of subject and object, no contrast of knowledge and existence; that all difference is lost in absolute indifference, and all plurality in absolute unity; that in the intuition itself, Reason and the Absolute are identified. "It would be idle (says Sir William) to enter into an articulate refutation of a theory, which founds philosophy on an annihilation of consciousness, and on an identification of the unconscious philosopher with God."

As to Cousin, we are told that "he and Schelling agree that philosophy is the science of the Unconditioned; and that the Unconditioned must therefore be within the compass of science." "The possibility of reducing the notion of the Absolute to a negative conception is never once contemplated: assertion is substituted for truth: facts of consciousness are alleged, which consciousness never knew, and paradoxes, that baffle argument, are promulgated as intuitive truths, above the need of confirmation."

We believe, with Sir William, that the process which conducts to the Unconditioned is that which reduces it to what he calls a "negative conception;" but we venture to differ from him in regarding *this apprehension of the negative side* of substance as "incognizable and inconceivable." And we so far agree with Cousin and Schelling, in thinking that "philosophy is the science of the Unconditioned," and that the depths of philosophy never can be sounded but through an apprehension of the Unconditioned. Hence, we entertain a somewhat different view of the Absolute from any of those now stated, one which we humbly believe to be free from the difficulties which reason properly interposes with respect to them, while it seems to us to satisfy the demands of reason, in speculating on this great theme.

But, before we attempt any elucidation of our view, we feel it incumbent to make a review (however brief) of the argument of Sir William Hamilton. And what does his argument amount to? Why, to a confession of mental imbecility to deal adequately with the subject! "The Infinite and the Absolute (he says) are only the names of two counter-imbecilities of the human mind." He deals with this question as he elsewhere deals with Causality. He resolves our "judgment of Causality into a mere mental impotence: an impotence to conceive either of two contraries." And this incapacity, he would tell us, must be *a priori* evident, when respect is had to the admitted relativity, and the finite range of the human mind. Here, we think, lurks the germ of a most vicious principle. We admit at once, that, whatever specific view we happen directly to entertain, must, in respect of that specific view, be relative and finite; for otherwise it would not be specific; but we do not admit that the limitation and relativity under which said specific view is envisaged, may not, by a negation of the limited and the finite, be removed; and that our view, through this process, may not thus become negatively extended. It is a view of vacancy, in connexion with which, somewhat is left which cannot be removed. In short, our doctrine is, that whatever be the limitation which characterizes any particular view of the Conditioned, there is no limitation (short of the Absolute), which, as being contingent, may not be discharged; and all limitation, and consequently all relativity, being broken down, that which is not contingent remains, as being thus "a negative conception," and becomes a view of the Absolute as Unconditioned. But of this hereafter. Let us follow Sir William Hamilton for a little.

He says, "the mind can conceive, and consequently can know, only the limited and the conditionally limited. The unconditionally unlimited or the Infinite, the unconditionally limited or the Absolute, cannot possibly be construed to the mind: they can be conceived only by a thinking away from, or abstraction of, those very conditions under which thought itself is realised; consequently, the notion of the Unconditioned is only negative: negative of the conceivable itself." Elsewhere (p. 578 Disc.) he tells us that "this negative thinking is in propriety a negation of thought," in as far as the result is "impossible to thought, *i.e.*, *what may exist*, but what we are unable to conceive existing."

What Sir William means by the distinction, "limited, and conditionally limited," no doubt has regard to the category of Quantity, or rather of Extension, as an attribute of Quantity. And, with him, the "limited, and conditionally limited," must, in that case, have respect to two contrary currents of thought. The one current to an extension which may be indefinitely diminished, as being simply therefore "limitation;" the other current to an extension which may be indefinitely enlarged, and which he classes as "conditional limitation." And he infers that as no indefinite amount of finites, by way of enlargement, will constitute the Infinite, as standing at the extremity of the one pole; so no indefinite amount of divisions, by way of diminution, will constitute the Absolute, as strangely placed at the other pole.

All this reasoning we hold to be utterly apart from the real question of the Unconditioned. The Unconditioned is not a question of enlargement, or of diminution; it is not a question in which *gradation* has a place: it is not a question of *degree:* it is not a question of Quantity. It is deeper than this. Sir William makes it a subject of *degree.* Whatever is a subject of degree is, and can be only, the subject of the *Indefinite,* a totally different point, as indeed he himself allows, from that of the Infinite and Absolute. He has, therefore, presented us with what we must regard as a most fallacious principle, laid down at the very foundation of his argumentation. He bases the question of the Unconditioned on that of *limitation,* limitation either indefinitely extended, or indefinitely diminished. With all respect to the memory of one of the most sagacious and accomplished philosophers, we submit that the question of the Unconditioned is not one of extension; but one of *character as regards the fundamental and essential nature of substance,* of substance when unconditioned, *i.e.,* of substance when deprived of its conditions. It behoves us to go a stage deeper, to probe this question: we must get out of the category of Extension. Instead of basing the question before us on limitation, we ask, upon what does limitation itself rest? We say the fact of *limitation* hangs purely upon the question of condition (the characteristic of positive substance), as we find it in the world, that it exists, or is removed, according as condition exists, or is removed; and that condition is the particular pertaining to

that generic category we term Quality. *Quality* may be termed the interioration of substance; and hence arises an exterioration which is inseparable from it, and which is called *Quantity.* Where there is interiority, there also must be exteriority. The former comprehends the *essential quid,* the latter the formal, or *modal quid,* some form of which is inseparable from the former. There is a sphere pertaining to Quality, as being the intrinsic foundation of positive substance; and that sphere of necessity constitutes Quantity, as the extrinsic feature of positive substance. The sphere of Quality embraces a certain circle of variable *conditions,* as the variety of particulars, under one or other of which Quality must be found; and the sphere of Quantity embraces a certain circle of variable forms, as the variety of particulars under which Quantity must be found. The latter is inseparable from the former, and limitation is of necessity the characteristic of each. If *intensification* be a peculiarity of the former, *extensification* is a peculiarity of the latter.

The question, then, of Limitation is one which stands and falls with the question of Condition. Sir William Hamilton has not once considered on what the fact of limitation is grounded; but taking up that simple point, and not even imagining the necessity of looking underneath for the law and principle under which it is developed, although that law is sufficiently illustrated in our daily experience by the removal of quality, and consequently by the abrogation of its conditions, and therewith by the removal of quantity, and consequently by the abrogation of the limitation applicable thereto, he simply posits limitation; and instead of fulfilling his own principle of negativing the positive, he *preserves* limitation as the element of cognition; and doing this, he asks, Were we to pile up limitation on limitation, in ever-increasing gradation, will that constitute the Infinite? Assuredly not. It is as obvious as the Sun, that if we are to have an apprehension of that which, according to its very definition, lies out of the category of extension, as *non-limitation* (the Infinite), we must not pile up, but must *get out of* said category of limitation. And if we are to have an apprehension of that which, according to its proper definition, as touching the same category, is the *non-relative* (the Absolute), as subsistence independently of a relative, we must, in like manner, *get out of* the category of the relative.

But, we may be assured, this is the very question involved. How can you (yourself being a relative, and a finite, in the midst of the relative and the finite, having no direct cognisance, but through the medium of the relative and the finite), ever reach that which is other than the relative and the finite? Is not "negative thinking in propriety a negation of thought?" We reply: it is not "negative thinking," in the sense of negation of thinking, but that power of abstraction, whereby we are enabled to negative or remove in thought certain positive elements from the concrete, leaving behind what have technically been termed a "negative concept." To perceive a negative is indeed a contradictory proposition; and yet, under the mutations to which, in our experience, the positive may be subjected, we are able to arrive at ideas, which *directly* are not attainable; nor attainable otherwise than through the positive, only through a negation of the positive, only through the breaking down of those qualities which constitute the positive; and these ideas we are content to term "negative concepts." These negative concepts are neither more nor less than the emptied substrata which remain, after conditions are successively removed, and which we reason must remain as the ultimate *substans*, when all positive quality is absolutely removed. The ink which I now use may be deprived of its qualities as ink; consequently, its interiority, in virtue of which it is so useful in marking forms on paper, is thereby taken away. We may reduce it to the simple quality of water. We have then the base or *substans* for ink. That quality also may be removed; and, in that case, it is reduced to its constituents Hydrogen and Oxygen. Whatever we may regard as the respective qualities of these separate gases, or of their relationship as gases to one another (and there is a relationship as their affinity attests), we know that one of these at least may be destroyed by combustion, whereby it seems to be wholly taken out of the way as Hydrogen. But, indeed, if all quality were thus absolutely removed, it is yet impossible to remove the nethermost basement wherein it inhered; for what would follow? Nothing short of absolute Annihilation; for if this could be supposed in one case, why not in another and another? And why not in all? We cannot admit it therefore in any case. We are not in circumstances to break down, or to destroy, practically, that quality known as Oxygen; and whether

it be the basis out of which materialism is built up, through a series of modifications, brought into every variety of relationship, we cannot tell; but in reaching this fundamental quality, we feel that there is but a step onwards to the completion of the negative process which we have begun, and have been able thus far to carry on. And that there does exist entire and absolute simplification of substance, wherein there is no positively known quality, *i.e.*, substance which must be regarded as absolutely emptied of any known positive quality, and which is yet the bearer of qualities, is discovered to us by data which we cannot resist. We know, for example, that the atmosphere may be below the freezing point, and yet the Sun's rays will raise the thermometer far above it. By what is the heat conveyed? Not by the air; for it is below freezing: are we not forced to say, by Ether? Again, we know that light and heat can both be transmitted through a vacuum, which refuses to carry sound? By what are they transmitted? In what do these conditions inhere? Are we not forced to say Ether? In Ether, then, as a universal medium, we have that which is not directly discernible to any external sense, but which, from thousands of illustrations, we are obliged to infer, as a ground-floor, or *point d'appui*, for the convection or transmission of conditions, while it is itself empty of all qualities. May it therefore be regarded as the Unconditioned?

Can it be supposed, that Oxygen, Hydrogen, Nitrogen, &c., are primary, and independent, and irremoveable qualities? * They are not independent; for we know by experience that they have an affinity for one another. Again, if not independent, but existing as co-relations, by the very consanguinity of their being, then they cannot be absolutely primary; and if not primary, they must be traceable to something more primitive. Moreover, though as qualities they were removed (and it is not impossible to conceive this), yet we cannot get rid of this twofold resultant, that, *on the one hand*, there must be a primordial substratum, all negative, which should permit the introduction of the positive, and be able to contain and sustain that positive when introduced; and, *on the other hand*, there must be a primordial foundation, all positive, as the *ens*, out of whose function co-existence flows. In short, we logically arrive at an Absolute, on the side of the negative, and at an Absolute on the side of the positive.

* See Appendix III.

That there does exist on the side of the positive that which is properly called "the Infinite;" and that said "Infinite" is not only *all-embracing*, in respect of being the absolute foundation out of which all the qualities, and consequently all the conditions, of substance have their derivation, but also as emphatically *unlimited*, in respect of the endless diversity and scope of conditions, of which existence is susceptible, and, further, as absolutely *unconfined*, in respect of the absolute scope which is afforded by the endless field of the Unconditioned, is not to be questioned. This is a problem which seems to us as determinate in philosophy as in revelation; but the term *Infinite*, as being an embodiment of the positive, and therefore as pertaining to the category of the *All-Conditioned*, is by no means one and the same with the same term when applied in the category of the *All-Unconditioned*. When employed as applicable to the latter, it literally means *negation without limits*, negation to which there is no boundary-line, and is therefore that foundation which, permitting endless range for the introduction of the positive, has the capacity to maintain what is grounded therein: when employed as applicable to the former, it implies *capacity without limits, i.e.*, omnipotence. On the negative side there is not merely latitude endlessly for the establishment of space, but there is potentiality absolutely for quality and its conditions to any indefinite extent: on the positive side there is not only *power* endlessly for the establishment of space, but there is that fundamental reality out of which material in any prescribed form might be multiplied to an indefinite extent. It is thus obvious that the Infinite as positive must exist within the Infinite as negative; and it is further obvious, that the Infinite as positive must have the Infinite as negative, to be his natural field, to be indefinitely filled; and it is still farther obvious, that the Infinite as positive must have as his attribute the characteristic of form, otherwise how should he be able to establish form? How should he be able to constitute that which does not belong to him? And if we must needs entertain the idea of *form*, as an essential characteristic of that which is positive, we must needs also entertain the idea of *limitation* in respect of mere personal extension. Yet, be it observed, it is in the first place a limitation which is all comprehending, which implies nothing

beyond it but what is derived from it, which stands as the fountain of all the limitation, that characterizes the whole arena of existence, and which is bounded by no line that can restrict further developments of existence; and it is, in the second place, a limitation which practically extends to, and overtakes the whole arena of existence, and may therefore be well termed the illimitable, the omnipresent. On the positive side, then, we see that limitation exists as the foundation of all limitation in the world; and we see how said limitation may yet be called "the Infinite:" the Infinite not only as the Primordial Type of all limitation, but as the Unconfined Projector of all the modes of limitation in the world.

It is a matter, therefore, of the utmost importance on the subject of the Absolute and Infinite, to consider whether we refer to the negative or to the positive—to the All-Unconditioned, or to the All-Conditioned. Sir William seems to have confounded the two, or rather to have overlooked this most necessary distinction. At all events he lays hold of the "negative conception," and, reducing all to the simplicity of an absolute and undivided unity, he obtains what he calls "the Unconditioned;" and yet he will have this negation to be an absolute positive; and being a positive, to be "an absolute whole" without parts and without complexity, and without limitation as an infinite extension. And his difficulty is, like that of Kant before him, to obtain diversity out of this unity, to obtain limitation out of this non-limitation. His difficulty lies in positing limitation as the *ne plus ultra* of knowledge and of conception; and therefore he concludes that "the Unconditioned must be incognizable and inconceivable." We grant at once that the conditioned alone is directly perceptible to our senses, and, therefore, that limitation is alone directly patent to our understandings. Limitation is not itself the conditioned, but only the boundary-line which characterizes the conditioned; and in every case, so far as the conditioned is negatived, the boundary-line which characterizes the conditioned is negatived too. In short, while we have experience of the extinction of conditions, we have no experience of the extinction or removal of the underlying substratum in which we are taught that the conditions inhere. We cannot, therefore, yield the dogma on which Sir William grounds his whole criticism of the Uncondi-

tioned. It shuts out of view that which we are led to regard as the attribute of the Unconditioned: it shuts out of view the *basis* of substance as to its fundamental capacity in the bearing of qualities: it shuts out of view the most important question in philosophy, the philosophy of substance, in that it makes no account of conditions as the characteristic of positive substance, and as the foundation of those relationships, under which substance functions with substance: it shuts out of view the possibility of ever reaching a Philosophy of Causality, in that it utterly ignores the principles upon which causality has its operation: it shuts out of view the question which is the ultimate aim and end of philosophy,—that which has for its object an investigation into the principles of *Law*,—its spring and rule of operation,—its constitutive and regulative action. We have no hesitation in thinking, that so soon as we can descry the character of the absolutely Unconditioned on the one hand, having *potentiality* as its inherent attribute, and of the absolutely Conditioned on the other hand, having *power* as its inherent attribute; so soon as we can see how the one stands in connexion with, and is the bearer indeed of, the other, all these valuable results will be obtained. The process of discovery hinges on the question, Can conditions be removed? And if so, Does substance remain after the removal? Are conditions *contingent?* and does their abrogation, and consequently the limitation hinging thereon, leave a universal substratum, as a *non-contingent* or permanent, as the Unconditioned? If there be such a thing as the blotting out of conditions, can there be also such a thing as the blotting out of the reality which is the bearer of the conditions? Is not the absolutely Unconditioned the *terminus ad quem*, in pushing aside the relative, in order to reach the ultimate, the absolute ground on which all positive existence rests?

In like manner, must not the absolutely Conditioned be equally the *terminus ad quem*, in accounting for the very existence of the relative, that is, in tracing the course of the relative from a secondary conditioned source, to the primitive conditioned source? If it be asked, Whence could arise those multiform conditions which constitute the glory of the world? No possible answer but one can be returned, viz., from a great Original. With the Unconditioned only, no possible explanation

could be given: no theory of development could account for the citation of the positive out of the absolutely negative; for though we must regard the Unconditioned as indeed *reality*, in respect of substance, it is *non-reality* in respect of conditions. Then the question is, How could that which is not, determine the existence of that which is? How could a spontaneous personality proceed from that which is absolutely impersonal? Supposing then that we had no other absolute than that of the Unconditioned, there could be no relief in accounting to the rational mind for the things which are. Hence the absurdity of pantheism. In considering the conditioned again, we are encompassed with this experience, that we have not a single case of condition, which is not traceable to another and similar condition: consequently, we enter upon a process of thought, the converse of that which conducts to the Unconditioned, a process which demands the existence primitively of conditions, and therefore of the Absolute, as the primary holder of conditions. In coming to the Unconditioned, we gradually pass out of the category of conditions; but in coming to the All-Conditioned, we preserve the line of conditions, and we come, of necessity, through the line of conditions, to the Absolute Original, from whom alone they can be derived. This Absolute Original must needs be regarded as of the spirit which pertains to the Unconditioned, as *the Unconditioned essentially clothed* with the fundamental qualification which constitutes absolute Personality, and as the ultimate Root of all relativity in the world. This Absolute is, therefore, the Type of all fulness in whom the formulæ of all positive existence is found, or is generated, while the negative Absolute is the Type of all emptiness, wherein all plurality and all variety is intrinsically absent. Both are one spirit, and one substance, differing merely as positive and negative, as personal and impersonal.

As regards the Absolute, as positive, and therefore as personal, we may be permitted to say, that, by due logical inference, there must therein be an objective and a subjective aspect; the latter the correlative of the former, the objective as the foundation of all objective creation, and the subjective as the regulative and constitutive agency, without which objectivity would be but a blind and unintelligent force, without purpose, and without plan. What then is the great Original whom we

call Deity or God, but that subjective Intelligence, who, being conscious of the prerogatives inherent in his own Being, as primordially the only positive existence, is conscious also of the ends or purposes which may be accomplished through the agency of these prerogatives?

SECT. II.—CONDITION AND FORM.

A few words only are here needful, preliminary to the chapter which follows. We have already noticed the general characteristics of substance, as we find it a positive manifestation in creation. We refer all to the ultimate and primary category of *Quality*, and to the accompanying, yet dependent category of *Quantity;* to each of which there belongs a category of *Relation:* Affinity marking the relation in regard to qualities; and Contiguity marking the relation in regard to quantities. We have also to note that the term Quality is a *generic* name for a circle of conditions, as being the *particulars* of which any quality may happen to be susceptible; and farther, that the term Quantity is a *generic* name for a domain of forms, as being the *particulars* of which any quantity is susceptible. Quality has respect to the *intrinsic* character of substance, and Quantity to the *extrinsic* character. Quality is invariably modified by temperature, whatever be the department, in that according to temperature, we shall find the self-same quality in a solid, or a liquid, or a gaseous state, which various states indicate so many distinct conditions. Different substances have each of these states respectively, as their normal condition; and in a secondary degree, variation of temperature is a variation of condition in these states. Hence, hard or soft, hot or cold, sour or sweet, *i.e.*, the characteristics of touch, and of taste, together with the characteristics of smell, and of sound, and of colour, all indicate conditions of substance; while form is restricted to the mould which any of these may present in whatever quantity they may happen to be present. In respect of Quantity, we find the *atom** to be the starting point; and the atom also appears in a variety of ground-forms; and the aggregate of atoms, when conjoined in the mass, takes on a polarization accordingly. We are disposed to think (and the fact of affinity strengthens the thought), that there is a corresponding foundation for Quality,

* See Appendix III.

while the analogy of forming an abstract science out of unity, gives the strongest countenance to it; in which case, not only would it follow that all conditions within a certain definite circle are referable to the Quality, which may be regarded as the parent of said Conditions, but that the very Qualities themselves, as indicating different departments of substance, may be ultimately referable to, and traceable from, one fundamental base or ground. In this way, we can understand why gradation, in the scale of complexity, applies to the conditions of Quality, as we know that it so applies to the forms of Quantity. It would follow then, that as regards Quality, there must be some primary foundation, to which all qualities are to be referred for their derivation, just as regards Quantity, there is some primary form to which all forms are to be referred. As regards Quantity, we may say here, that we do not believe in the infinite divisibility of matter. Such a dogma is a metaphysical sophism, self-contradictory, which, had Sir William Hamilton considered, would assuredly have saved him from the reasoning in which he has indulged with respect to the Infinite. Why, if matter were infinitely divisible, the finite would contain the infinite! And not only this, but the finite would contain an infinite number of infinites! The dish which stands on the table is finite, and it contains fifty lumps of sugar: now, if each lump be divisible *in infinitum*, then we have a multiplication of infinites; and observe, all in the bosom of the finite!

It is to be hoped that we have obtained some definite apprehension of Quality and Quantity, as the two very important categories which lie at the foundation of all our ideas of positive substance and of relativity. We would further note as regards Quality, that there seems to be two great generic foundations, distinct from one another; one as the basis of the *Material* economy, and another as the basis of the *Intellectual* economy; but these two so combined, that the latter seems to be properly the subjective correlation of the former, in that it has the cognition of its various states. Let us, for the present, have to do only with the former of these. As regards what may be called a *basement*-quality, on which secondary qualities happen to be successively built, substance may, and should be, properly regarded as, to *that extent*, reduced to an Unconditioned, as being the ultimate stage at which we arrive, in

stripping away series after series of particulars in compounded substance. As regards primitive quantity, on which all secondary quantities are successively built, it is properly regarded as *atomic;* the atom, as its name implies, being quantity which *cannot be cut,* and the standard according to which all molecules must bear a precise proportion.

We reach, then, the very foundation of the conditioned. In respect of quality, we go backwards through all complexity of composition, and gradually arriving at what is more simple, we come ultimately to primitive or absolute simplicity. In respect of quantity, we go backwards through all complexity of structure, and gradually arriving at what is fundamentally typical, we come ultimately to the absolutely primitive forms out of which all things are built up. It is impossible to separate quantity from quality. While we come, therefore, logically, to the conclusion, that atoms are the fundamental elements of material structure, we are forced also to the belief, that there is among them a distinction in quality. And here we have an apt illustration from the fundamental elements which go into the composition and structure of language. We regard atoms as the alphabet of material creation. As the composite structure of language, in every book of human thought, is traceable backwards through those complex forms termed sentences to words, and through words to syllables, and through syllables to letters—letters of different form and quality; so the composite structure of the material universe is traceable backwards from complex combinations to simple, and from these again to the most simple of all. We are entitled, therefore, to say, that as every letter hath its own power in the formation of syllables, and syllables their respective powers in the formation of words, and these again in the formation of compound words; so it is with respect to the composition of atoms. And practically we find it so in the latest discoveries of chemistry. Atoms are known to have their precise mode of union according to what is called the law of definite proportions—a law inexorably maintained without the slightest deviation; and under this law we have combinations, first, of elements uniting with elements, forming what are called *acids* and *bases;* and again we have combinations of these simple compounds, forming what are called *salts;* and again we have combinations of these, forming what are called *double salts;* and

by this system of successive combination, as it were, of letters into syllables, and of syllables into words, and of words into compound words, we have, by their varied junction, as the elements of speech, the construction of that world of meaning wherein the thoughts of God are registered, and from which the character of God is ascertained, so far as the book of nature contains it.

As regards the origin of atoms, we must simply consider them as the immediate invention or direct creation of God, in order to be His materials for constructing a material universe reflective of His mind; just as letters are the immediate invention or direct creation of man, in order to be his materials for language, as the representation of his thoughts. And as man has recourse to a certain fluid, which in itself is unconditioned with any special forms, and out of, and by means of, said fluid gives expression to a variety of forms, with a distinctive quality or power attached to each; so it is rational to imagine, that the Deity made use of substance, itself unconditioned with any special qualities, and unquantified into any special forms, as the material out of which, and by means of which, the fundamental elements of creation were established. To the Unconditioned we shall have again to refer in another chapter. Let it be sufficient, that in this we have arrived at certain definite views with respect to the Conditioned.

CHAPTER II.

CAUSALITY DEPENDENT ON CONDITION AND FORM.

SECTION I.—RELATIONSHIP.

THERE is a relationship which belongs to condition, as an internal characteristic; and there is a relationship which belongs to form as an external characteristic. They are the relations which belong to quality on the one hand, and to quantity on the other; and give rise to those fundamental principles, in dependence on which all operations have their validity. The principle expressive of the relations of quality is *affinity:* the principle expressive of the relations of quantity is *similarity*. Affinity in respect

of condition, and assimilation in respect of form, are analogous terms therefore; and respectively denote the principles in virtue of which condition and form propagate and multiply themselves. The question is, In what way can these elements of condition and form propagate themselves, or beget new elements either representing, or compounded of, the existing ones? We answer, By Contiguity or Contact. Contiguity or conjunction, in respect of qualities, must be established, before condition can be reproduced; and contiguity or conjunction, in respect of quantities, must be established, before form can be reproduced. That which produces contiguity is called *Association*. Association is regulative in its operation—regulative in respect of the conditions or forms which are assembled together, and regulative in respect of the mode of bringing them together; it therefore follows, that under Association we have that precise expression, which different relations are naturally adapted to manifest. Let us for a moment point more fully to the nature and source of Relationship.

We have said, that in order to the constitution of qualities, there must be a gradation from unity, of separate steps, each disconnected from the other by a distinct boundary-line: it is obvious, as these steps are increased, that some qualities must be remotely related compared with others, just as there is a wider interval betwixt two and nine than betwixt two and four, and a wider interval betwixt two and four than betwixt two and three. The very foundation of all relation then lies in gradation from a primitive simplicity. We need not point out that there is a relation in respect of quantity as well as in respect of quality—a gradation from a simplicity of form, as the standard out of which other forms are realised, as well as a gradation from a simplicity of condition, out of which other conditions are realised. In the doctrine of atoms, to which we have referred, we practically go back to certain simple and primitive qualities and quantities, out of the relationships of which is built up a universe of matter, with all its attendant phenomena. The relationships of quality and quantity, though necessarily inseparable, are yet always distinct, the one as marking *internal* characteristics, the other as marking *external* characteristics. Relation in respect of quality lies in *the degree of* RESEMBLANCE *which one quality bears in its condition to another*, which is termed their *Affinity*. Rela-

tion in respect of quantity lies in *the degree of* RESEMBLANCE *which one quantity bears in its form to another*, which is termed their *Similarity*. The reproduction, then, of the internal characteristics of condition must take place under the operation of the law of *affinity*, and the reproduction of the external characteristics of form must take place under the operation of the law of *assimilation*. Said reproduction is dependent, as we have said, upon contiguity or contact, as being the phenomenon or result of association. OUT OF CONTIGUITY ARISES THE PRINCIPLE OF CAUSALITY. Contiguity of certain conditions is reproductive of a new condition in virtue of affinity, as when the nourishment introduced into the stomach in contiguity or contact with gastric juice, forms chyme; and the chyme in contact with bile, forms chyle. And contiguity of certain forms is reproductive of a new form, in virtue of the operation of similarity, as when the stamp applied to the softened wax constitutes an impression, or the tallow poured into the mould forms a candle. The operation of causality produces the phenomenon of *change*. Change stands in contrast to identity: change marks the difference to which identity has been subjected. But this difference cannot be realised without the exercise of *force*. Now the question comes to be, Under what circumstances has force its existence, and its varied constitution and character, as manifested in all the phenomena of the universe?

SECT. II.—THE NATURE AND ORIGIN OF FORCE.

It is perfectly obvious that mere conjunction of different conditions could be of no avail, if there were nothing in the conditions themselves, to produce the operation of causality. In every causal operation we perceive a manifestation of force. We perceive it in the cohesion and repulsion of particles; we perceive it in capillary attraction; we perceive it in gravitation; we perceive it in chemical affinity; we perceive it in electrical phenomena; we perceive it in the play of all vital processes: the question then is, Whence comes force, and what are the circumstances which give rise thereto? Does the power or potentiality, which lies somewhere, reside in substance inherently and essentially, and inseparably therefrom; or does it come and go with the conditions superinduced upon substance? We have no hesitation in replying that it cannot essentially belong to

mere conditions *apart* from substance; first, because there is not such a thing, condition being but a modification of substance; and secondly, because condition, as some contingency of substance, being removable at pleasure, the source of force would thus be subject to annihilation! Force, indeed, is subject to annihilation: not so power, or the source of force. We cannot, without contradiction, suppose the annihilation of the source of force, as the power or capacity of momentum, unless we suppose the entire removal of substance, and then we have absolute negation. Where we have the idea of substance, however refined, there we have necessarily the idea of potentiality, in as far as we cannot think of substance without thinking also of it as the capacity of *expressing* something. We hold, then, that force is dependent on quality, and is regulated in its expression by the conditions of quality. If therefore the conditions and the quality are removed, the force to which they give birth must needs be removed also; but the power or potentiality, which lies inherent in the substance, as *the very attribute of substance*, is not and cannot be removed. There can be *no manifestation* of power in the unconditioned, in as far as all *expression* of power is ever found dependent on the quality to be expressed, and ever varying with the variation of condition; yet the *inherent potency* of substance fundamentally, stands as an imperative and necessary truth.

And here we come to a correct idea of the term *Spirit*. This word, in its radical signification, has respect simply to *the potentiality* inherent in substance; and as there can be no potentiality apart from the substance in which it inheres, so the term spirit has come to imply not merely inherent power, but also the substance wherein the power resides. And the expression *pure spirit*, as denoting substance with the mere attribute of potentiality only—that is, the power or capacity of momentum only—is but another designation for the *unconditioned*. The unconditioned, as being pure spirit, has essentially a dynamic character; but for want of conditions, said character is of necessity quiescent. There are no principles of causality, therefore, in the unconditioned; for the principles of causality lie in the conditions of substance.

The point therefore to ascertain is, What are the circumstances pertaining to the conditioned, in virtue of which causality has its validity as a law of force? We believe they will be found *universally* comprehended under this simple formula: THE AFFINITY

OF RELATIONS IN CONTIGUITY. By relations we mean, different conditions in some particular association with one another; and by affinity we mean, the nearness or otherwise of the relationship which may happen to exist betwixt conditions. It is more comprehensive to say, "The Affinity of Relations," than the Affinity of Conditions, because there may be conditions so distant or converse from others as to have little or no apparent affinity to one another, —that is, no attraction for, and no repulsion of, one another when in contiguity; in which case no particular causality is manifested. And further, let it be noted, that we posit affinity as the operating cause, because fundamentally the *internal* or inherent characteristics of matter take the initiative in reproducing condition, before the law of assimilation can operate for its *external* characteristics in reproducing form. No doubt, practically, they are inseparable; for, as operation arises from the attraction or repulsion of the *intrinsic* principles which mark affinity, so every operation necessarily carries along with it the *extrinsic* characteristics of form which may happen to belong to the inherent conditions.

Affinity, then, stands fundamentally as the operative cause, in every expression of the law of causality. Affinity we regard as the very principle which Leibnitz sought for, when he propounded the doctrine that there must be "a sufficient reason" for everything—a doctrine which, though commending itself to the natural convictions of mankind, has been somewhat cavalierly treated by philosophers. But not only can we point to the "sufficient reason," but we can describe "*the law* of the sufficient reason." Causality not only operates from *the kind of conditions* in themselves which are in contiguity, but also according to *the kind of contiguity* in which the conditions stand to one another. In other words, *the law* of the sufficient reason varies with the relations of the conditions associated. While affinity constitutes the foundation of *operation*, or force, as such; relationship constitutes *the law* of operation. Affinity therefore may be described as the *constitutive* principle of operation, and relation as the *regulative* principle. While affinity is the cause in producing *a* phenomenon, relation is the cause, under this, in producing *the* phenomenon.

We can explain, then, *how* it happens that the forces of the universe have their validity; and *why* it is that said forces may be indefinitely varied. It is obvious that we must, first of all, have *potentiality* as the inherent prerogative, the inalienable at-

tribute of substance; second, *condition*, as some particular expression of some particular quality; third, *contiguity*, as the association of conditions in some particular relation. Nothing more is needed for the utterance of force. Potentiality stands as a *constant*, being the inherent and inalienable attribute of substance, the source of momentum definable and determinable by condition. Condition is the key whereby potentiality is unlocked—whereby potentiality is reduced into force; and contiguity, as introducing a direct relationship of causal elements or factors, is the door through which force shows itself as a special phenomenon or effect.

CHAPTER III.

SIR WILLIAM HAMILTON ON CAUSALITY.

Sir William Hamilton has, in his philosophical discussions, set forth a brief view of the various theories which have been proposed by different philosophers for the solution of the great problem of Causality; and not being satisfied with any of these theories, he advances an exposition of his own, which, he thinks, goes far to meet the difficulties with which the question is beset. We shall glance at the subject as he represents it, and take a short review of his principles; premising, however, that as in this review we must follow Sir William somewhat into the details of Mental Philosophy, so, if the reader is disposed, he may defer the consideration of the contents of this chapter, till he has perused the Philosophy of Metaphysics, under Book Third.

Sir William says: "Of all questions in the history of philosophy, that concerning *the origin of our judgment of cause and effect* is perhaps the most celebrated." He goes on to state the question thus: "When aware of a new appearance, we are *unable* to conceive that therein has originated any new existence, and are therefore *constrained* to think that what now appears to us under a new form had previously an existence under others. These *others* (for they are always plural) are called its cause; and a cause (or, more properly speaking, causes) we cannot but suppose; for a cause is simply everything without which the effect would

not result, and all such concurring, the effect cannot but result." Further, he says, "Our judgment of causality simply is:—we necessarily deny in thought that the object which we apprehend as beginning to be, really so begins; but, on the contrary, affirm, as we must, the identity of its present sum of being with the sum of its past existence. And here it is not requisite for us to know under what form, under what combination, this quantum previously existed; in other words, it is unnecessary for us to recognise the particular causes of this particular effect. A discovery of the determinate antecedents into which a determinate consequent may be refunded, is merely contingent, merely the result of experience; but the judgment, that every event should have its causes, is necessary, and imposed on us as a condition of our human intelligence itself. This necessity of so thinking is the only phenomenon to be explained" (pp. 585, 586).

In remarking upon Sir William's views, we would first of all take exception to the expression which he employs, "Our *judgment* of causality." Causality is primarily not a matter of judgment, but a matter of fact. Every matter of fact may, no doubt, be made a matter of judgment, because every matter of fact may be made the subject of character in answer to the question, "Of what kind is it?" and this is done by comparing it with its own cognate idea, set up as the standard of judgment. It will be noticed, when we come to consider the faculties of mind, that there is no judgment possible but by the comparison of an idea with its cognate or similar idea as a standard of measurement—a standard whereby the character of an idea is to be ascertained; and that, consequently, there must be the perception or apprehension of the object itself as a matter of fact, before there can by possibility be any exercise of judgment thereon. When therefore Sir William Hamilton employs the term "judgment of causality" to express the mind's primary cognition of causality, his language is at once apt to mislead and to confound the inquirer; for judgment is a term which ought never to be employed except when describing *the character* of a thing, in some one or other of its aspects; and, if correctly used only when describing the character of a thing, it follows that *the thing itself*, as a fact in existence, must needs be cognised independent of judgment, and preliminary to judgment. We submit, therefore, that there is a thorough misapplication of language when it is said that the question "con-

cerning the origin of our *judgment* of cause and effect is the most celebrated." Why, we are prepared to show that the origin of our judgments, whether having reference to the subject of causality or any other subject, is in all cases precisely similar—that the mode under which we exercise *judgment* in any case, and in all cases, is exactly the same. The *origin of our judgments* is one thing: the *origin of causality* is another thing. There is this very obvious, that as the origin of our judgments, and the origin of our perceptions, and the origin of our apprehensions, and the origin of all our cognitions, are but so many varied illustrations of causality, the question of causality as such must come in for independent and preliminary consideration, irrespective of judgment, or any other faculty of the mind. We cannot do without the use of our faculties in the examination of the subject-matter placed before us; but using them, as we necessarily do, in our processes of reflection, we may and must employ them to consider the elements of truth, as they are objectively presented to us from the world, before we come to consider the faculties themselves. Let it be noted, then, that in the general question of causality it is *not* "the origin of our *judgment*" therein, that is the object of consideration; nor is it the origin of our perception thereof; but THE ORIGIN OF THE SIMPLE FACT, to which we give the name of Causality.

Now, as to Sir William's definition of causality. To say that "it is everything without which the effect would not result," is saying little or nothing: this gives no information whatever as to the nature of cause. To say that other forms previously existing are the cause of "what appears to us under a new form," is equally unsatisfactory. All this tells us nothing of the connection betwixt cause and effect. This mode of defining touches not the nature of causality; and, while it touches not the nature of causality, it goes to destroy the very idea of *a cause* as such. There is no such thing as *a* cause, according to Sir William: A cause, says he, is "properly *causes*;" "for they are always plural." Again, to say that our judgment of causality is "a necessary denial in thought, that the object which we apprehend as beginning to be, really so begins," and, by consequence, "a necessary affirmation of the identity of its present sum of being with the sum of its past existence," is, in fact, to say that there is no such phenomenon as causality at all. He

reduces causality to a matter of *time;* and under what circumstances time has its causal validity, he is silent. Sir William charges Dr Thomas Brown as "quietly eviscerating the problem of its sole difficulty:" shall we say that Sir William lies under a similar condemnation? Anything more unsatisfactory, in the way of definition, than Sir William's, we cannot imagine. In fact, the question of causality, as such, is actually evaded. Sir William, instead of dealing with the question of causality in itself—instead of ascertaining and setting forth under what circumstances causality has its origination as an operation—instead of establishing, or attempting to establish, what constitutes the nature of causality, and how it has its validity as such, "quietly eviscerates the problem of its sole difficulty," and takes up merely "the *origin of our judgment* of cause and effect." He says, "The necessity of so thinking (the necessity of thinking that every effect must have a cause) is the only phenomenon to be explained!" The operation of causality as a moving principle in nature is to him unworthy of a thought! An inquiry into the principles of said operation is wholly unnecessary!! But the judgment, that "every event *must* have its causes"—"this necessity of so thinking, is the only phenomenon to be explained"!!! If ever a subject was quietly shifted aside, it is here. We have one subject coolly substituted for another. There is a metaphysical legerdemain practised upon us; and the operator himself would seem to be satisfied that his representation goes to the foundation of his subject. Why, granting that "a discovery of the determinate antecedents into which a determinate consequent may be refunded is merely contingent, merely the result of experience"—granting that we acquire a knowledge of the causal elements in any particular instance of causality, just as we acquire the knowledge of a thousand facts besides, viz., by perception; yet surely the knowledge of a mere fact as such—that is, as a mere phenomenon—is one thing; and the knowledge of *the circumstances under which it comes to be a fact*—the knowledge of the causality and necessary connection of the factors constituting the fact—is another thing. It is this latter consideration which touches on the nature of causality. Philosophers talk about "determinate antecedents" in connection with a "determinate consequent;" and, moreover, speak of these as embracing *all* the circumstances which give any known stimulus to the

operation of causality. They have only blinded themselves and the world by the use of such language; and, by consequence, have brought the question of causality into the sphere of self-contradiction and inconceivableness. We submit that the term "antecedents" conveys a gross paralogism when employed in the question of causality; and therefore we have preferred using the term *causal elements*, as denoting what is implied by the term *antecedents*. Things may properly be regarded as causal elements, while not any one of them can be regarded as *a cause*; and, moreover, with this additional advantage, that in so denominating them, the element of *time* is not implied, as in the term "antecedents," but excluded rather, by our term. Moreover, things cannot be regarded as antecedents with their correlative of consequent, without, in the first place, regarding antecedent as cause, from the very circumstance that consequent is regarded as effect; and, in the second place, without presupposing the element of time as preliminary to the operation of causality, and therefore independent of causality—a doctrine wholly at variance with truth, as we shall show in the proper place. And, besides all this, the antecedents, or, as we term them, causal elements, do not embrace *all* the circumstances which give rise to causality. We must be reminded, that in each element there is the *internal condition*, as well as the *external form*; and that without contiguity or combination into some special relation there could be no practical affinity established, and therefore no operation of causality. We avoid, therefore, the unwieldy and unmanageable sort of logic which necessarily pervades the writings of Hume, Brown, Hamilton, Mill, and others, which refer a "determinate consequent" to so many "determinate antecedents" as the cause of said consequent. Such reference is essentially incorrect; for in this way *a* cause is not the cause of one determinate effect, but, as the case may be, of a variety of effects. Every one knows that the self-same antecedents, as they are called, will produce totally different consequents, according to the different kind of combination or relationship in which they stand to one another. The antecedents of the word *art* would be regarded as the letters *a*, *r*, *t*; but give them a different contiguity or conjunction, and we have a new consequent, viz., *tar*, and a still different contiguity, and we have another consequent, viz., *rat*. We hold, then, that by referring an effect simply to so

many antecedents as "the causes," creates absurdity, and introduces endless confusion and mystification into the exposition of causality. And Sir William, in common with many others, simply content with the common doctrine, since the days of Hume, that "the concurrence of all the antecedents" goes, as he terms it, to "refund the consequent," admits *the fact* of causality, and admits it as *a matter of experience;* but how or under what circumstances said concurrence operates as causality—in short, *what in truth constitutes the very nature of causality,* he does not for a moment inquire.

We run counter to Sir William, therefore, in the conclusion to which he comes respecting the particular difficulties, or rather, respecting the real question of causality. The origin of our *judgment* of causality may be a difficulty: we are prepared to meet it. But this is not the question. What we say is this: There can be no discussion, logically, on the origin of our *judgment* of cause and effect, till we have first discovered what the *object* of our perception (viz., the cause and effect,) really are. Let us point out the logical inconsistency under which Sir William stands, in the views which he takes of this subject.

Sir William remarks, that "the observation of certain phenomena succeeding certain other phenomena, and the generalisation consequent thereon, that these are reciprocally causes and effect, could never of itself have engendered, not only the strong, but *irresistible* conviction, that every event *must* have its causes. Each of these observations is contingent; and any number of observed contingencies will never impose on us the consciousness of necessity, that is, the consciousness of an inability to think the opposite. This theory (he continues) is thus logically absurd. For it would infer, as a conclusion, the universal necessity of the causal judgment from a certain number of actual consecutions: that is, it would collect that "*all must be* because *some are.*" True: but Sir William reasons from unwarrantable premises. He is himself in error, in that he draws a conclusion by the comparison of *non*-cognate elements. All judgment, in order to be of any validity whatever, must arise from the comparison of cognate elements, that is, elements precisely similar in kind. Sir William's position is, that the causality of our experience is *contingency,* and yet that the causality of our judgment is *necessity;* and he may well ask, how can we draw necessity from

contingency? We submit that *the causality in either case is not of the same sort.* The causality which is CONTINGENT refers to THE BUILDING UP of a fact which might be differently constituted, or not constituted at all—a fact whose junction of causal elements *might* have been different, or whose entrance of certain causal elements *might* have been wanting—a fact, therefore, which *might* have been non-existent, and which, under other circumstances, would have been non-existent. The causality, again, which is NECESSARY refers to a fact as ALREADY BUILT UP and fully constituted. *In the former case causality is contingent,* because the forming or constituting of said causality, that it may become a fact, is *not* a matter of necessity: *in the latter case causality is necessary,* because, when once formed and constituted as an actual fact, the event, of course, cannot but result. The light of the world is a *contingent* phenomenon, if we look to the building up of the causality whereby it is produced; for we can imagine the sun, which is the source thereof, to be non-existent. Again, the light of the world is a *necessary* phenomenon, if we look to the causality as already established; for we cannot imagine the sun to exist as he does, and actually to shine, without imagining at the same time his light to be diffused. We can imagine the causality which makes two and two to be four, to be a *contingency,* because we can imagine the causal elements or factors in the particular case to be a contingency which might never have existed; but if we do actually posit said elements, and combine them for the purpose of addition, the judgment *must* represent the conclusion as an absolute necessity. It is obvious, therefore, that the logical difficulty presented by Sir William Hamilton is one of his own creating! It is obvious that he brings into comparison two things which are essentially distinct and different; for contingency of causality refers to the *creating* of a certain combination or relationship as the phenomenon or thing to be achieved; while necessity of causality refers to the *effect* of a certain combination or relationship as a thing which has been *already achieved.* Each causality is a separate phenomenon depending upon separate and distinctive premises. The necessity in the one case has no direct connection with the contingency in the other, as Sir William represents it.

We can readily solve the difficulty which Sir William says is "the only phenomenon to be explained." We profess to point out

why it is that all men judge, and irresistibly conclude, that "every event *must* have a cause." We request that it may be noted what is the idea of the term *event* which men, all men, receive in the course of their experience. Is it not *something invariably associated with a cause?* No man entertains any other meaning as belonging to the term event. What follows? Why, this: that the idea of event *must be regarded as what it is*—as what it has been received to be. Seeing the mind has realised the word *event* as the correlative of cause, the word event must therefore be described accordingly. The mind can only conclude from what it has actually realised: the mind must conclude a thing to be what it has received it to be: the mind has no power to contradict *its own facts*, which have been gathered in the course of its experience. The principle of non-contradiction must universally stand, viz., that a thing *must* be what it is, and *cannot* be what it is not. We thus account for the universal dictum of all men, that every event *must* have a cause. Cause and effect are but correlative terms: they are but separate sides of one and the same combination. If we speak of cause, we must needs envisage therewith the idea of effect: if we speak of effect, we must needs envisage therewith the idea of cause. There is a *necessary connection* betwixt them; for they are the corresponding sides of one and the same relationship. The cause cannot be separated from the effect; and the effect cannot be separated from the cause. We have, *de facto*, received the terms in this way: we cannot therefore give them forth differently without contradiction. The fruitful source of misconception, and mischievous reasoning, as we have already hinted, is the contemplation of so many "antecedents," as they have been termed, and improperly termed, as the cause, or rather causes, which "antecedents" are *not* the cause, but merely the causal elements: they are not the cause till they come into a particular relationship. It is the *relationship* of causal elements which constitutes the cause; and when the cause is thus constituted, the effect stands *necessarily* forth.

We might content ourselves with having thus analysed the position of Sir William Hamilton, and set forth its untenableness, when he himself, as following in the wake of Hume and of Kant, seemingly imagined its utter impregnability; yet, at the risk of appearing tedious, so unspeakably important to the interests of

sound interpretation, and therefore of correct knowledge, is a right understanding of the law of causality, we must be permitted to follow Sir William a little further into the details of his exposition of this subject. He "would analyse the judgment of causality into the form of the mental law of the conditioned." This theory, he says, "supposes that the mind is limited: the law of limitation—the law of the conditioned—constituting in one of its applications the law of causality." He goes on to say: "The mind is astricted to think in certain forms; and, under these, thought is possible only in the conditioned interval between two unconditioned contradictory extremes or poles, each of which is altogether inconceivable; but of which, on the principle of excluded middle, the one or the other is necessarily true. In reference to the present question, it need only be recapitulated, that we must think under the condition of *existence*—existence *relative*—and existence relative in *time*. But what does *existence relative in time* imply? It implies—1st, That we are unable to realise in thought, on the one pole of the irrelative, either an *absolute* commencement, or an *absolute* termination of time; as, on the other, an infinite non-commencement or an infinite non-termination of time. It implies—2d, That we think neither on the one pole an *absolute* minimum, nor on the other an *infinite* divisibility of time. Yet these constitute two pairs of contradictory propositions, which, if our intelligence be not all a lie, cannot both be true, whilst, at the same time, either the one or the other necessarily must. But, as not relatives, they are not cogitables. Now, the phenomenon of causality seems nothing more than a corollary of the law of the conditioned, in its application to a thing thought under the form or mental category of existence relative in time. We cannot know, we cannot think a thing, except under the attribute of *existence:* we cannot know or think a thing to exist except as in *time:* we cannot know or think a thing to exist in time, and think it *absolutely to commence.* Now, this at once imposes on us the judgment of causality" (p. 591).

Indeed! With all possible respect for the unquestionable learning, and talent, and metaphysical acumen of an able and well-disciplined mind, we must take exception to the illogical utterances pervading the above quotation. How the law of limitation in itself constitutes the law of causality baffles our comprehension. We can attach no other meaning to the law of limita-

tion, as applicable to the conditions of mind, than that mind, in its operations, cannot overstep the boundaries of its conditions. Causality, therefore, is circumscribed or limited by the limitation belonging to the conditions present; but this is a totally different thing from the *operation of causality within limitation.* Limitation assigns the boundaries of causality; but limitation has nothing to do with the *operation* of causality within said boundaries. Causality has its operation wholly irrespective of limitation: how, then, can "the law of limitation constitute the law of causality?" This is simply saying that the mould wherein a particular form has been cast, constitutes that operation of the substance whereby it takes on a particular consistency. What! if we pour melted tallow or melted lead into a mould, does the mould, as the law of limitation, constitute that inherent operation of the tallow or lead which induces the consistency of hardness when cold? The brewer puts a quantity of liquid into a tun: has the tun, as the law of limitation, anything to do with the fermentation which goes on according to an inherent causality in the condition of the liquid ingredient? The notion is absurd. The law of limitation has no direct bearing upon the question of *operation* as such, which is, in fact, the question of causality. It is obvious that the operation cannot extend beyond the sphere to which the conditions are limited: but what then? Why, the law of limitation is merely *regulative*, and not at all *constitutive*, as an element in causality, as our author erroneously would have it. We have before shown that it is condition, as the inherent property of substance, which gives impulse to the law of causality; for it is affinity betwixt conditions as attracted to, or repelled by, one another, that constitutes the *moving* principle in causality.

Let us proceed in our analysis. Sir William says: "The mind is astricted to think in certain forms." Most true. But we beg to note that it is *not the forms, but the conditions of thought under the forms*, which give rise to the operation of causality in thought, that is, to the operation of thinking. Forms are but the *external* properties of things, and constitute the law of *limitation:* conditions are the *internal* properties of things, and constitute the law of *operation.* The latter afford the *impulsive* element in causality; the former, the *regulative* element to which the impulsiveness is necessarily astricted. This, as regards mind, will be fully pointed out in the proper place. When therefore, he adds

that, under these forms, "thought is possible only in the conditioned interval between two unconditioned contradictory extremes," what does he tell us? Why, neither more nor less than this, viz., that *thought is limited by the form of thought!* To say that thought lies within the boundaries of two extremes, is simply to say that thought has limitation! The real question of causality is by our author wholly untouched: he "quietly eviscerates the whole difficulty of the problem;" for we ask him, and ask him in vain, How comes thought to have its validity, its operation, its causality, within these extremes?

Further: he tells us "we must think under the mental category of existence relative in time." We shall have occasion hereafter to point out the grievous blunder of Kant, to which Sir William Hamilton subscribes, that "time and space are categories in the mind alone;" that is, forms within which all thought, as in a mould, must be regarded as contained; instead of being, as will be shown, necessary phenomena arising out of causality, and depending thereon. What meaning must be attached to the words *existence relative in time? Existence* means reality—reality having some condition or another, and embodied in some form or another. *Existence relative* means, a condition having some relationship to another condition. *Existence relative in time* means, that time is manifested independent of *this* relationship. There is no other meaning which we can possibly ascribe to the words "existence relative in time," than that conditions stand in relationship to one another during the process of *a time*, independent of said conditions. We ask, In what way does this account for the law of causality? We ask, How does time enter as an element in generating the operation of causality? We shall have occasion to show that time itself is *the offspring of causality;* and that, if there were no causality, there could be no time. To throw in time, therefore, as helping out the causal process, is to throw in that which is the direct result of a causal process! One may as well be told that the rays of the sun are the cause of its shining!

But Sir William tells us that "existence relative in time" implies one or other alternative in two pairs of contradictory propositions. The first proposition is, that, "on the one hand, we are unable to think a thing to exist in time, and to think it *absolutely* to commence or *absolutely* to terminate; and, on the other hand, we cannot think an infinite non-commencement or

an infinite non-termination of time." "This inability (he says) imposes on us the judgment of causality." In the first place, we beg to dissent from the illogical conclusion (as we must term it), that inability, or "mental impotence," as he afterwards expresses it, can impose one thing or another. *Inability is want.* How want or negation can impose aught that is positive, surpasses our powers of comprehension. But let us endeavour to dissect the proposition itself.

And here we ask in what way "existence" can imply *our inability?* His words are, that "existence relative in time implies that *we are unable,*" etc.: where does he find a *we? Our* apprehension, when seeing a part and not the whole—as limited, therefore, in its power of observation—imposes the idea of impotence or incapacity in *us;* but existence, abstractly, stands irrespective of us. But it may be argued that existence, after all, is to us *our idea* thereof; and that our idea of *existence relative in time* implies a mental impotence to think an absolute commencement. There is a gross solecism in this conclusion, arising from the connection which the element *existence* is made erroneously to bear to the element *time.* In the expression, *existence relative in time,* the "existence relative" depends upon a causality, totally irrespective and independent of the causality, under which *the* "time" is produced, wherein the relation holds good. Any one who will take the trouble to think for a moment, will see in what way this question has got so perplexed and confounded. Let him ask, What is it which fundamentally measures *our* time? The revolution of the earth on its axis gives the divisions of day and night, as being alternately exposed to the light of the sun; and the revolution of the earth round the sun gives the seasons of a year. Out of each of said revolutions we have *a* time, *in which* we mark the relationships we form in the world. But said time is wholly irrespective of the minor times which we constitute and appoint for ourselves. We construct our clocks and watches to measure so many minor times, in adaptation to this measurer of time in *general;* yet by a causality perfectly distinct from, and totally independent of, the revolution of the earth. And again: we measure events by reference to *particular* times, which events have a causality totally distinct, and independent of that which gives movement to our clocks. Now, what we say is this, that *every event which has a separate causality of its own, has of necessity a separate*

commencement of its own—a time of its own which, in respect of said event, is absolute, thoroughly absolute—a commencement which, though "*in* a time," is yet wholly irrespective of said "time;" for it is a minor time, having a causality of its own. What we are desirous to point to, in Sir William Hamilton's reasoning, is the grievous fallacy of connecting the words "commencement" and "time" in the expression, "We cannot know or think a thing to exist in *time*, and think it absolutely to *commence*," as belonging to one and the same category of existence, and therefore to the same causality. The category of existence out of which the fundamental and preliminary element called "time" is produced, as referred to in the proposition, is *one thing:* the category of existence out of which the special element called "commencement," as a minor time, is produced, is *another thing.* Besides, the question of causality, in either case, is preliminary to each, for *time* is the offspring of causality, as will be elsewhere shown; and, therefore, the due understanding of the question of causality, is in no respect dependent on the question of time, and ought never to be mixed up therewith. We believe we have detected unmistakeably the paralogism under which Sir William's doctrine labours. When he says, "We cannot think a thing to exist except as in time," it is granted at once, but not in Sir William's meaning. What we hold is this, that the very process of thinking *marks* time as its phenomenon; for time is the interval indicated by the transition of one thing with respect to another. There can be no transition of one thought, therefore, with respect to another, but as necessarily declarative of time. Time, in short, is the necessary phenomenon of such operation —the causal production of such mental activity. The only proper meaning, therefore, of our author's expression is, that we cannot think a thing to exist without its *marking* time. We hold that it is perfectly possible for us to think a thing to exist which is *not* IN *time*, and in no way connected with time, further than in so far as the thinking subject engenders or begets the idea of time as the necessary feature of the thinking. Let the earth and the sun be destroyed; *the* time, therefore, *in* which, or *under* which we think, would be destroyed too: let all external existences be destroyed, and there could be no manifestation of time out of, or apart from ourselves, as thinking subjects; and the time which of necessity clings to our thinking, is simply *engendered* by

our thinking. This was the time which alone could have pertained to the Deity, in the exercise of those conceptions whereby He devised the world: it was created as the necessary resultant of the mental operations of God. Now, when our author says, "We cannot think a thing to exist *in* time, and think it absolutely to commence," he is guilty of a subtle fallacy, by erroneously confounding *that* time involved in the word "commence," as begotten in connection with *the* "time," in the first clause. Be it noted, that the time which is involved in the word "commence" has a causality and a commencement absolutely its own, and independent; so far at least as the "time" irrespectively existing, is concerned. The manufacture and construction and movement of my watch, as an existence *in time*, has nothing whatever to do with the construction and movements of the worlds as marking said *time;* and therefore its commencement as an existence, and its movements as an existence, are *absolute*, so far as said *time* is concerned. We have, in fact, an absolute commencement in every new relationship, whereby a new economy is formed.

Nor will it help Sir William, when he betakes himself to what he calls "the other pole of the irrelative," and says, that "we are unable to realise in thought an *infinite* non-commencement, or an *infinite* non-termination of time." An infinite non-commencement of time! Why, this means absolute timelessness! absolute inactivity—absolute negation of operation or of movement. Here, as before, Sir William's reasoning is beside the question. If time is the product of movement; and if movement is the product of causality; causality must have its being, irrespective of time. The discussion of the question of time, or of timelessness, can never settle that of causality. But as the heterodox principles of Sir William, on the subject of causality, have tended much to hinder just views thereon, we may here also give them a brief consideration. Now we run counter to Sir William, and we say we *can* conceive "an infinite non-commencement," and precisely on the same ground as we have said that we *can* conceive "an absolute commencement." We have said that an absolute commencement is effected, when any new relationship of elements into some special combination, is effected. It is the easiest thing in the world to suppose such combination *never* to have been effected. I can suppose my clock never to have been constructed, and never to be: I can suppose this of all existing clocks: What

follows? Why, an infinite non-commencement of hours and minutes; *i.e.*, an absolute timelessness of *these* elements. I can suppose the world never to have been created, and never to be: What follows? Why, an absolute timelessness as regards days and years. But if I cannot suppose the non-existence of a Great First Cause, then I cannot suppose an absolute timelessness *quoad* said First Cause; because the very supposition of a mind in activity on a variety of objects, carries along with it the phenomenon of transition, *i.e.* of time.

The reasoning that applies to the point of "infinite non-commencement," applies to that of "infinite non-termination," or *absolute continuance* of time. There is no apprehension which we can more readily form. Continuance of time depends on that of causality. We can suppose the indefinite continuance of the present constitution of the sun and planets; we can suppose, therefore, the indefinite continuance of day and night, of summer and winter. We can suppose the indefinite existence of clocks in operation: we can, therefore, suppose the indefinite continuance of hours, minutes, and seconds. Our author's fallacy in this discussion lies, in ascribing to time, an independent existence, without the circumstantials which mark it, forgetting that the time marked is *then* reduced to pure negation.

But we may not occupy our pages further with this discussion; for the question of time is subordinate, and therefore *post*ordinate, to the question of causality. Again: Sir William takes up the question of gradation, and says, that "existence relative in time implies, second, that we can neither think, on the one pole, an *absolute* minimum, nor, on the other, an *infinite* divisibility of time." What has this to do with causality? Purely nothing. Causality, *as such*, has nothing to do with maximum and minimum, with extension and diminution. Mere amount has always regard to the *regulative* process in causality, and not to the *constitutive* element, in virtue of which causality has its operation. The question of limitation here concerned, we have already discussed, and we need not re-open it here.

It will be naturally supposed, that Sir William's views, with respect to *creation* and *annihilation*, partake of the unsoundness ascribable to his views respecting causality. "Creation (he says) is conceived, and is by us conceivable, only as the evolution of

existence from possibility into actuality by the fiat of the Deity. Can we construe it to thought, that the moment after the universe flashed into material reality, into manifested being, that there was a larger complement of existence in the universe and its Author together, than, the moment before, there subsisted in Deity alone? This we are unable to imagine. And what is true of our concept of creation, holds of our concept of annihilation. We can think no real annihilation—no absolute sinking of something into nothing. But, as creation is cogitable by us only as a forth-putting of Divine power, so is annihilation by us only conceivable as a withdrawal of that same power. All that is now *actually* existent in the universe, this we think, and must think, as having, prior to creation, *virtually* existed in the Creator; and in imagining the universe to be annihilated, we can only conceive this as the retractation by the Deity of an overt energy into latent power. In short, it is impossible for the human mind to think what it thinks existent, lapsing into non-existence, either in time past, or in time future (p. 592)." Such is Sir William Hamilton's idea of creation, and its opposite, annihilation. We ask, What meaning is attachable to "the evolution of existence from possibility into actuality?" Evolution is the unfolding of something which had been rolled up or hidden: possibility is the power or capacity of being or of happening. What is meant by the unfolding or manifesting of existence from the power or capacity of existence? How can existence be unrolled from the mere possibility or capacity of existence? This is Sir William's only conceivable idea of creation! We honestly confess, we can discover in his words a jargon merely of terms without meaning. If we are to lay stress upon the term "evolution," then Sir William denies the sense of creation in the ordinary acceptation, viz., as bringing into being that which had no being before. This acceptation we are prepared to uphold, and, what is more, to make it perfectly comprehensible; but to "*evolve* existence from possibility into actuality," involves, to us, what is utterly incomprehensible. Further: our author denies that "there was a larger complement of existence in the universe and its Author together, than when the Deity subsisted alone." According to him, there is properly neither increase nor diminution—neither creation nor annihilation, but only a "forth-putting of Divine power," and a "retractation of overt energy into latent power." How a forth-

putting of Divine power can be synonymous with creation, is to us passing strange. That Divine power is exerted in creation, is obvious enough; but that the exercise of Divine power means creation, or that the "withdrawal of that same power" means annihilation, is, to our thinking, simply absurd. Creation assuredly has respect to a *particular mode* of exercising Divine power; and it is the peculiarity of the mode which constitutes it to be creation, as distinguishing it from any other act of Divine power which is not creation. The question then is, In what does this peculiarity consist? We answer at once, *by associating existing elements into* NEW *combinations.* With this idea we are perfectly familiar. Every fresh conception is an illustration of this: every new invention is an illustration of this; and with this, we have an unmistakeable increase or accumulation of material.[1] In every fresh conception or invention, we have realised the possession of a new idea, while we do not lose thereby the original elements of which that idea is composed. Let us endeavour to put ourselves in the position of one creating, or, as Sir William puts it, "let us form to ourselves a concept of the universe." In God are certain elements (as we may term them) which have had no beginning—which, existing in a combination of self-beingness, constitute His *essential* conditions. These conditions are, fundamentally, what must be regarded as the underived ideas—the inherent and unbegotten essentials of His mind. Out of these, new concepts are made to spring into being; and these, simply by the junction of existing mental conditions in *new* association. We can only reason by analogy from what takes place in ourselves; and, in so doing, we are justified as proceeding according to what reason and Scripture alike pronounce type and antitype; and without which source of induction we could form no opinions whatever on the subject. As regards creation, then, it was first of all formed in the *mind* of Deity; and, as such, was *an accumulation of thought in Deity,* beyond what constitute the *essential* ingredients of Deity apart from creation. What was then demanded was, the external representation of this accumulated thought, *as conceived by Deity.* Now, here we must hold, that the process of creation was analogous to what

[1] The subject of Conception is duly treated in the proper place. The elucidation of said subject would give force and significancy to what is here stated: we can only refer to it.

takes place in conception. In conception, we associate certain ideas, as mental conditions or elements preliminarily existing, into new combinations, for the purpose of producing the concept desired, or thing created in the mind. In creation, commonly so called, as the introduction into substantial existence of something which had no existence before, there is a new association of substantial conditions preliminarily existing; and out of these, in combination, a substance is formed *absolutely and altogether new.* This substance, again, may constitute a new element for a fresh association; and thus creation of variety of substance may go on indefinitely. In this view, there may be an *accumulation* of matter indefinitely, which had no existence whatever before creation began. All we postulate for external creation, just as all we postulate for mental conception, is a substantial ground, having a certain inherent or underived quality: this quality we have in the Deity Himself, as the absolute foundation of all things. This subject will be discussed more fully when we come to the contemplation of the Absolute.

As Sir William Hamilton has had many followers in the views which we have here taken occasion to combat and condemn; and as said views, when followed up, run into violent collision with ascertained truth; let us briefly review his sentiments. Creation, then, is *not* "an evolution of existence from possibility into actuality." We can comprehend an evolution from the germ into full development; but an evolution from possibility, without said germ, we cannot comprehend. Evolution is the rolling out into relief of what had a previous existence *in gremio;* but creation is the institution of an absolutely new existence. And this new existence is constituted out of a new relationship of pre-existing conditions. All creation is so; and creation, as objectively displayed throughout the varied economy of materialism, is but the counterpart of creation, as preliminarily constructed in the conceptive mind of the Creator. All creation necessarily has its commencement in the rational mind, as harmoniously blending the elements belonging thereto, for new fields of thought; and all external creation, as it is called, is but the copy of that constitution of things which had been previously devised by said mind: the difference being, that the conditions are impressed upon a totally different ground, and consequently manifest themselves in totally different phenomena. Our author totally

mistakes and misrepresents the idea of creation and annihilation, when he says, "We can represent to ourselves the elements of which an object is composed, divided, dissipated, modified in any way: we can imagine anything of it short of annihilation. But the complement, the quantum, of existence thought as constituent of an object—*that* we cannot represent to ourselves, either as increased without abstraction from other entities, or as diminished without annexation to them. In short, we are unable to construe it in thought, that there can be an atom absolutely added to, or absolutely taken away from, existence in general." Our author's fundamental error lies, first, in the supposition that atoms are essentially *ab eterno;* and, in the second place, that in quantity the atoms can neither be multiplied absolutely nor diminished absolutely. We shall have to point out, that though atoms are undoubtedly the grand elementary principles out of which is built up an economy of materialism, yet they are themselves created as atoms; and, further, that out of the fundamental characteristics of substance, as essentially existing in a purely spiritual condition, atoms may be indefinitely multiplied, without diminishing aught from those already in being. If we had an idea of the creation of atoms, we can readily fall into the idea of a multiplication of atoms. As to their creation, there are two things, viz., their *internal* quality, and their *external* form. That which renders them atoms is their *form:* The amount or quantity of substance does not come into consideration: all that is wanted, is a certain quality in *some* amount, and that it should have form. To the Deity belongs the foundation of all form. All we require is unconditioned substance, on the one hand, susceptible of impression; and an all-conditioned type, on the other hand, capable of giving the impression. Surely it is obvious enough, that as, in our own experience, form is engendered indefinitely in that medium which is otherwise formless, and that through the presence of a type: so the breath of Deity operating on the unconditioned might assimilate the same, to any indefinite extent, to a particular likeness already prevailing in Himself. Thus we promulge a doctrine the very reverse of our author, and say, that we can conceive a complement of existence in the universe now, indefinitely larger than when Deity subsisted alone in the category of being. "And what is true of our concept of creation, holds of our concept of annihilation." So says

Sir William, and so say we; but in different meaning. Sir William says: "We can think no real annihilation,—no absolute sinking of something into nothing." "It is impossible," he says, "for the mind to think what it thinks existent, lapsing into non-existence." Indeed! why, we have experience of the fact every day: we have the experience of the loss of quality and form every hour. What is it which constitutes aught to be a *thing?* Its condition and form. If these be destroyed, then, the thing is destroyed: all that constitutes its individuality is destroyed: as *the* thing, and as *a* thing, it is annihilated. The substance of which it was composed may, under some quality, exist, dissipated by the winds, or mingled with the waters, or absorbed into other substance: still, granting this, *the object, or thing spoken of*, is absolutely destroyed as such: it no longer has the vestige of being, unless in the fact that certain infinitesimal atoms remain. And even in respect of the very atoms, as being themselves created elements, we have no doubt that the process may go onwards, whereby the absolutely unconditioned is reached. It is according to all analogy to suppose this. We can travel so far towards the unconditioned, by a process of κενῶσις: it is true philosophy, because in accordance with all analogy, to suppose the process thus begun, may be completed. Unless we suppose this, there is no unconditioned. The unconditioned marks entire annihilation.

We are loath to quit Sir William Hamilton on Causality, without considering his *reasons* for preferring the doctrine thereon, which he has propounded. He says: "In the *first* place, it postulates no new, no extraordinary, no express principle. It does not even proceed on the assumption of a *positive power;* for, while it shows that the phenomenon in question, is only one of a class, it assigns as their common cause only a *negative impotence.*" Negative impotence as a common cause! How can impotence be a cause? How can that which is negative be a cause? We hold that no *positive* principle can be evolved from a "negative impotence." This ground of "general imbecility," instead of being a reason for accepting Sir William's dogma on causality, is to us a sufficient, and a very strong reason, for rejecting it. We agree most cordially with Sir William, that there is a suspicion attachable to the alternative, which can save a phenomenon, *only* on a special hypothesis expressly excogitated to account for

the same. But this is no reason why we should adopt so loose and illogical a position, as to attempt to account for a phenomenon without any principle at all! Once allow negation to be operative, and we shall logically get into the wildest vagaries of pantheism. To us, the idea of negation being operative is the *ne plus ultra* of scientific delusion. We, like Sir William, would postulate "no new, no express, no extraordinary, no *particular* force:" we, like Sir William, would allow that "nature never works by more, or more complex, instruments than are necessary: —*μηδὲν περιττῶς*." At the same time, we cannot, with Sir William, accept a theory which throws aside all instruments—which removes the very ground from under our feet. We therefore, in direct opposition to Sir William, avow, that we *do* "postulate an express and positive affirmation of intelligence, to account for the mental deliverance:" we *do* require the preliminary presence of certain conditions, before there can be an expression of the will. This subject will receive due attention in the proper place.

"But, in the *second* place (says Sir William), if there be postulated an express and positive affirmation of intelligence to account for the mental deliverance, that existence cannot absolutely commence, we must equally postulate a counter affirmation of intelligence, positive and express, to explain the counter mental deliverance, that existence cannot infinitely not commence. But they are contradictories; and, as contradictories, they cannot both be true. On this theory, therefore, the root of our nature is a lie. By the doctrine, on the contrary, which I propose (he says) these contradictory phenomena are carried up into the common principle of a limitation of our faculties. Intelligence is shown to be feeble, but not false: our nature is thus not a lie, nor the Author of our nature a deceiver." Our nature is not a lie, and the Author of our nature is not a deceiver; but we do not rest on such reasoning as Sir William Hamilton's for such a conclusion. We demur to his reasoning: negation can show nothing, whether true or false. The point is, to find out the contradictory phenomena. It is ours to demand a *positive* principle to account for a positive result. Very well, says Sir William, you get into a contradiction: for, if you affirm that existence cannot absolutely commence, you must affirm that existence cannot infinitely not commence. But we affirm neither the one

nor the other! We affirm that existence *can* absolutely commence; we affirm that all that is contingent *does* absolutely commence; and what is contrary to this we do not affirm. Sir William has got involved in the Kantian antinomies. Kant's averment is, that "in cosmology, for every statement advanced, reason supplies a counter statement, and supports either side of the topical antithetic with equally good arguments." This dogma we regard as logically monstrous; and the views thus promulged as equally delusive and ensnaring. We are told, in other words, that reason is not reason. We hold that the reason can never contradict itself. Reason is the harmony of principles. Whatever runs counter to this harmony is not reason. It is an unnatural paradox to affirm that, where reason demands a certain mental deliverance, it must equally demand a counter mental deliverance. It is branding the high prerogative of our nature as at once a mockery and deceit. We cannot here go into a consideration of the Kantian antinomies; but we take leave to say that his philosophy on this subject is utterly untenable, in as far as he confounds things that essentially differ. We might show, by the way, that Sir William's statement and counter statement are not contradictories, but simply two *contrasting* propositions, any of which, or both of which, might be true, so far as either is concerned; but we may not be led away from our more immediate subject.

Our author has a *third* reason for preferring his particular view of causality. He says: "This simple and easier doctrine avoids a most serious inconvenience, which attaches to the more difficult and complex. It is this: To suppose a positive and special principle of causality, is to suppose that there is expressly revealed to us, through intelligence, an affirmation of the fact that there exists no free causation: that is, that there is no cause which is not itself merely an effect, existence being only a series of determined antecedents and determined consequents. But this is an assertion of fatalism." We entirely demur to this: we question the soundness of the conclusion which says that "a positive principle of causality" leads to "fatalism." What is meant by a positive principle of causality? Our author answers: "A series of determined antecedents and of determined consequents." With all respect to the memory of Sir William, and to those who think with him, we submit that he is in error. When

we postulate a positive principle, as absolutely essential to causality, we assert that, before any judgment can by possibility be given forth on any one subject whatever, and consequently, on the question of causality, there must previously exist in the mind an apprehension of the elements of that subject, and the characteristics thereof. In other words, we do always, and without any exception, demand the intelligence of a subject, before there can be a judgment or mental deliverance upon the character thereof. And, as we have said, this *dictum* applies to the subject of causality. Before there can be any judgment pronounced, that *any effect* MUST *have a cause*, we must have realised it beforehand in our apprehension—that is, in our experience—that our very idea of a cause is not complete without embracing in it that of effect; —that, in short, an effect is the very counterpart of a cause—that, in fact, what is called an antecedent is not properly an antecedent unless accompanied by a consequent, just as there can be no consequent unless attended with an antecedent: all which declares that, as we have received it, a cause is not a cause unless conjoined with an effect; just as an effect is not an effect unless associated with a cause. This is the view impressed on every man's experience: this is the ideal of causality, which cleaves insensibly yet inflexibly to every man's judgment, even when he is caught away by an illogical characterising of the causal elements, which have no claim to be taken into account with the cause, when these are considered by themselves. It ought to be remembered that cause and effect are but *correlative sides* of one and the same combination. The cause ought never to be confounded with the causal elements, or what our author calls so many "determined antecedents," as existing in a disjointed state, wherein there is properly neither cause nor effect; and, further, the cause ought not to be confounded with the causal elements individually, even in combination, seeing they have thus lost their distinctiveness: it is the particular *relationship*, as making up their oneness or totality, that gives the necessary connection betwixt cause and effect, and constitutes an inseparable union so long as either the one or the other exists. We are so accustomed to regard the phenomenon presented, as simply and exclusively the effect, and then to turn (and to turn erroneously) to so many antecedents or causal elements as the cause—all the while unsuspicious that said antecedents could be otherwise than the cause—

that we unconsciously beget a prolific mystification of all logic. Still, intellect, in all cases true to itself, gives forth the mental deliverance, that every event *must* have a cause, because it has insensibly realised the idea of cause and event as inseparable; and, when again carried off by a plausible pursuit after a cause (or "causes," as the antecedents are called) which is not the cause, the minds gets bewildered to account for a necessary connection where (*i.e.*, in the mere antecedents) it sees no necessary connection. There is a necessary connection betwixt cause and effect; but there is no necessary connection betwixt certain antecedents and an effect.

We have deemed it necessary to refresh the mind by a reference to the true character of antecedents in connection with causality. We cannot admit, with our author, and many other philosophers, that causality consists of a "series of determined antecedents and determined consequents." There may be a series of determined antecedents, and yet causality with these may have no fixed illustration in bringing out a determined consequent. There may be a series of determined consequents, and yet causality may fail to trace them to a precise set of determined antecedents. We believe in the doctrine of "a positive and special principle of causality;" but we do not explain said principle by simply referring it to a series of determined antecedents. We do not, of course, deny that there exist what may properly enough be termed antecedents in respect of every consequent; but we do deny that the antecedents, as such, can be fairly regarded as *the cause* of the consequent. The antecedents are but causal elements, entering into the composition of the cause; and the composition thereof, and consequently the character thereof, may be changed according to the relationship in which said elements may happen to stand to one another. We have defined causality to be *the relationship of causal elements when associated.* Relationship has its validity as causality, in virtue of the positive affinity prevailing betwixt the respective conditions of the causal elements, as affecting one another when in contiguity or combination.

We have explained our view of Causation. We ask now, How does this view stand in the way of *free* causation? What is *free causation?* We answer, causality unfettered,—causality not intercepted in its due operation by the introduction of any disturbing elements. Any other interpretation of free causation

is (we submit) delusive and unsound. Is this the meaning attached by our author to free causation? He speaks of a "free cause" as being a "cause which is not an effect"—a cause which has "the power of absolute origination." We hold that Sir William is mistaken here. He confounds a free cause with an intelligent reason. There is a vast discrepancy betwixt the two. There is no such free cause in creation as Sir William mentions: there cannot, in the nature of things, be a cause which is not itself conjoined with its correlative effect. There never was: there never will be. A cause, whether applicable to the deliverances of mind or the phenomena of matter, is a valid and special relationship of associated conditions. A free cause, as applicable to material operations, can have meaning only as indicating a *pure* relationship of certain conditions, *i.e.*, a relationship *not disturbed* by the admixture of any foreign element as preventative of that precise operation of causality which a pure relationship would secure. A free cause, as applicable to the operations of will, properly indicates, in like manner, a precise relationship of mental conditions (ideas), out of which relationship arises the exact motive which constitutes will, which can be changed only by the admixture of a new element into the association of other elements. This point is sufficiently discussed elsewhere in this work. We shall simply say here, that that motive only, as is shown in the proper place, and which, so to speak, is prevalent above other and contending motives, is properly to be considered as will; and, therefore, that will is free which, in the combination of ideas that may happen to be present, is manifested by the rejection of counteractive elements, and by the association of those only, out of which the will arises, and is carried onwards to volition.[1]

Sir William's view of a free cause—"a cause which has the power of absolute origination"—applies to the exercise of rational intelligence, and of this alone. It is assuredly incorrect to confound this grand begetter of causation with the term "free cause," or to confine its meaning thus. The fact of its having the power of absolute origination, does not constitute its freedom, and therefore does not distinguish it from ordinary causation. Rational intelligence is properly the *Architect* of causality; and we prefer simply to regard it as *first cause*,—that of Deity being dis-

[1] We refer to our chapter on Will for a full exposition of the views we propound.

tinguished as the *Great First Cause.*[1] There can be no absolute commencement of causation without Reason: there can be no constitution of cause but as primarily instituted thereby. It is by reason, that existing elements are brought together into fresh relationships; and, by consequence, that new causes and their effects are constituted. Here it will be asked, What moves reason in the association of causal elements into that relationship which forms cause and effect? The simple answer is, the regulative law of harmony, which is the *law of demand*—the law which seeks supply when exigency requires it. The lower animals have no demands in connection with the exercise of reason, because they have no cognition of the wants of the *not-me*. The law of harmony, in their case, is properly termed Instinct, in as far as they have cognition of the wants of the *me* only. The cognition of the wants of the *not-me* constitutes the foundation of reason. The law of affinity, therefore, in man, as craving for the supply of said wants amid the ideas which offer themselves, gives the source and spring of rational operation. Let any process of reason be taken as an illustration: we are prepared to substantiate this assertion.

What, then, have we achieved? We have seen that there is "a positive and special principle of causality;" and we have seen that this is perfectly consistent with "free causation." We have seen, in fact, that, if there were no positive principle for *generating* movement; and, moreover, if there were no positive principle also for *regulating* movement; the former being found in Condition, and the latter in Form—or, as Sir William terms it, limitation;—there could be no causality on the one hand, nor any law of causality on the other. To speak of causality as a fact, and yet to deny "a positive and special principle of causality" as a fact, we can regard as nothing less than a contradiction in terms. We uphold the doctrine of a positive and special principle of causality; and we uphold, in direct and immediate connection therewith, the doctrine of a free causation. We have defined our terms: we have seen that a free causation—*free* as respects the precise effect to be produced—consists in the *pure* alliance of certain specific elements, *undisturbed* in their constitution as a particular relationship, for the manifestation of its own intrinsic and exclusive result.

[1] But, indeed, to prevent ambiguity, *cause*, as referring to the operation of a producing intelligence, ought to be *causer* or *framer*.

And how do we answer the charge of fatalism, brought against us? It does not reach us. Fatalism can arise only from a principle of necessity, as respects the INSTITUTION of causes. Fatalism can have nothing to do with that principle of necessity which respects causes *already constituted*—which has regard to the connection of cause and effect—which has regard to the fact of a thing being in all respects what it is. It must, and ever will follow, in the nature of things, that wherever a cause is, there also its correlative effect *must* be; and *vice versa*, wherever an effect is, there also its correlative cause *must* be. But this has no connection with the question of fatalism. The question of fatalism stands or falls with the answer which should be given to the question: Is THE INSTITUTION, OR PRIMARY CONSTITUTION, OR CREATION, OF CAUSES, A MATTER OF NECESSITY, OR A MATTER OF CONTINGENCY? Is the construction of causes, *ab initio*, "a series of determined antecedents and determined consequents," or is it not? There cannot be a moment's hesitation on this point. We say, that *there is a necessary connection betwixt cause and effect, as such;* but we also say, THERE IS NO NECESSARY CONNECTION BETWEEN ONE CAUSE AND ANOTHER CAUSE. There has been much confusion of thought prevailing on this subject, from Hume downwards; yet it is susceptible of being thoroughly unravelled, and made logically plain. From what has been advanced, it will be sufficiently obvious that, as the institution, or primary constitution, or creation, of causes, must be made by rational intelligence, and can be made by no other; therefore the principle of fatalism, if it has a place of rest, must be found in rational intelligence, and can be found nowhere else. In short, it is therein, if anywhere, that a series of determined antecedents operate as motives for determined consequents. But what is the fact? It is therein that deliberation and weighing of character constantly takes place: it is therein that selection of elements is constantly exercised: it is therein that one thing is repudiated and another is embraced: it is therein that the law of harmony with the condition of the thinking mind, is regularly observed. Here, then, if anywhere, must we discard the doctrine of *determined* antecedents. In all cases, whenever a relationship of ideas *purposely* is formed, and causation is constituted thereby, it is to be noted, that the causation is not abstractly a necessity, but a contingency, which might be, or might not be.

Its devisement takes place, not because of its abstract indispensability, but because of its *relative* essentiality to the fulfilment of a known or foreknown set of arrangements. If I resolve to purchase a particular set of furniture, I do so because of its adaptation to my particular wants, and not because said furniture would be required, if my position were different. Again: suppose I have the means of changing my present position in the world, I balance the advantages I presently possess, with those which I should prospectively enjoy by the change, and cleave to the side on which the preponderance lies. Nor is there any antecedent necessity of cleaving even to this; for if my disposition inclines to the old position, as more in harmony with my feelings, this fact may outweigh any profit of a different kind, which the change proposed might present. What then becomes of the doctrine of fatalism? It is a phantom; and the phantom disappears, just as every phantom disappears, when the ground is removed on which it was supposed to rest.

But we must have done with Sir William, and come to a close. We shall make but one further quotation. He says, that "some would exempt the facts of volition from this otherwise universal scheme of thorough-going necessity;" that "they find themselves compelled, in order to escape from the consequences of their doctrine, to deny that this dictate, though universal in its deliverance, should be allowed to hold universally true; and accordingly they would exempt from it the facts of volition." Sir William shows the inconsistency of such an accommodating philosophy, and then takes occasion to hitch in the superiority of his own views, as if there were no other alternative. He concludes thus: "How the will can possibly be free, must remain to us, under the present limitation of our faculties, wholly incomprehensible. We are unable to conceive an absolute commencement: we cannot therefore conceive a free volition. A determination by motives, cannot, to our understanding, escape from necessitation. Nay, were we even to admit as true, what we cannot think as possible, still the doctrine of a motiveless volition, would be only casualism; and the free acts of an indifferent, are morally and rationally as worthless, as the pre-ordered passions of a determined will. *How*, therefore, I repeat, moral liberty is possible in man or God, we are utterly unable, speculatively, to understand" (p. 596). Such is the conclusion to which a high

caste of mind, confessedly acute and ingenious, is constrained to come, when once it has admitted certain premises into his reasoning which ought never to have been admitted. First of all, Sir William admits the law of limitation—which, by the way, he confounds with the principle of impotence—as affording the principle of causality. Secondly, he admits that, under the law of limitation, the element of time, as "one of its applications," directly constitutes the law of causality. Thirdly, he admits that a determination by motives, must needs run counter to free causation. Fourthly, he speaks of a "motiveless volition," as if there could be a movement without any spring of movement; and he speaks of "the acts of an indifferent," as if that which is negative for movement, could at the same time be regarded as being positive for movement. All these admissions are the admission of principles philosophically false. With such principles, can we wonder at his perplexity? With such principles, can we be amazed at his conclusion—"how moral liberty is possible in man or God, we are utterly unable, speculatively, to understand?" Upon such principles, "the mind is a complement of contradictory revelations." But we hold no such principles: we are released, therefore, from any such conclusion. Our author is to be blamed, not for his conclusion from such premises, but for his admission of such premises. Resting his "causal judgment," as he does, upon "mere mental impotence"—upon "the mere incapacity of thinking the opposite," we might fairly inquire, upon what ground he can pronounce so positively and so authoritatively; for all our pronouncements are supposed to emanate from direct intelligence? If the springs of rational and moral action are utterly beyond the range of the human understanding, upon what evidence do we come to know this? Have we sounded all the shores of this alleged inaccessible island? Have we satisfied ourselves, by every possible device, that there is no approach thereto? Upon what ground can we be certain that no means of stepping thereupon can be for ever discovered? How can we be sure that fresh instrumentality, useful, and adapted for this purpose, may not be found out? Does it not argue a grasp of mind more than his premises will warrant, to decide that this cannot be achieved? Does it not, in fact, set forth a palpable contradiction, on universally acknowledged principles? Before we are in a position to say what cannot

be, we must either have exhausted all possible resources, and found them insufficient; or, in trying the only possible resources, we must have found them to contradict the phenomenon. One may assert that *two* and *three* will never make *six;* and why? Because he knows *all* the relative bearings of *two* and *three,* and that in no relationship in which they can be placed will they ever make *six.* But if our author's doctrine is conclusive, he must be able positively to say that there are *some* things which the human mind is unable to receive; or, if able to receive, that there are some things, the *explanation* of which the human mind is unable to receive. This latter is Sir William's averment. He receives the fact that the will is free; but the *explanation* of the fact he cannot reach. "*How* the will can possibly be free (he says), must remain to us, under the present limitation of our faculties, wholly incomprehensible." Be it observed, that he places no limitation on the mind, as to the cognition and belief of the *fact;* but he does place limitation on the mind, as to the cognition and belief of the *explanation* of the fact. The question, therefore, at once forces itself upon us: What is there in the category of the fact, which constitutes the fact itself believable; and what in the circumstantials of the fact, which constitute its explanation not believable? Sir William himself would no doubt answer, All belief depends upon evidence; and he would answer rightly. And he would, doubtless, further answer, We have evidence of the fact in this, that, "practically, the *fact* that we are free, is given to us in the consciousness of an uncompromising law of duty, in the consciousness of our moral accountability;" but that we have no evidence for the explanation of the fact from the circumstance, that "the understanding is wholly unable to construe to itself the possibility" thereof. Let us not be so easily put off. We ask, What is it in any case which unfits the mind for "*construing the possibility* of a fact" of which it is assured? We answer, it is, either when we do not know the component ingredients which go to make up the fact; or, when knowing them, that we do not apprehend their character. The ingredients, or relative elements out of which a fact arises, may be hidden from us; or, if not hidden, still we may be unacquainted with their respective natures: in either of which cases we cannot give the explanation. If asked to give a meaning of the term *explanation,* we say, It is a manifestation of the harmony betwixt a fact, and the relation-

ship of the ingredients out of which it arises: it is a manifestation of the circumstances under which causality, in any particular case, has its operation. We receive it as a fact, that the hands of a watch move, and move in a definite ratio of rapidity to one another; and we receive this fact on the evidence of our perception, by the sense of sight. We receive the explanation of this movement, when we are instructed as to the mechanism within—as to the relationship of the spring and wheels, and juxtaposition of the wheels to one another, and to the hands without. The child or the untutored savage is assured of *the fact* of movement; but *the explanation* of the fact he cannot give. Why? Because he is uninstructed as to the elements, and the relationship of the elements, out of which the phenomenon stands forth. Still, all the elements are within his grasp; and the character of the elements is within his reach; and the relation in which they stand to each other is capable of precise ascertainment; and as he grows up with capacity to look to said elements, and to examine their relationship and juxtaposition, he is capable of receiving the *explanation* of the phenomenon: he beholds the *rationale* of the fact. We hold, that in respect of mental emotion and volition, we are equally possessed of the spring, the ingredients, and the relationship in which they stand, as giving forth the varied phenomena of willing. That the phenomenon will not square or harmonise with our author's ingredients or elements of causation, is not to be wondered at. How is this possible, if he puts into the relationship false elements—elements which have no connection with causality—which do not enter thereinto, as, for example, that of *time*, which is itself but a phenomenon thereof? The position of our author, therefore, and of others who have so miserably stumbled, in this fundamentally important subject, becomes sufficiently defined. It does not arise from any "mental impotence," or inability to "construe the possibility" of the fact,—that is, to receive its explanation; but from the utter inadequacy of those constituent elements they have laid hold of, for this purpose. It would require a genius of a very peculiar kind, to show the mill in operation, by a machinery which is not its own; or in movement, without any moving power at the foundation. We therefore establish the thorough inconclusiveness of Sir William's doctrine of causality. We run counter to our author, and affirm, that it is not from the limitation of our intellect, as

abstractly incompetent to receive, but from the non-cognition, th non-apprehension, the non-reception of the right constituents, an their characteristics; which non-reception is due to the prelimi nary reception of false constituents, which, so long as they ar received, are preventative of the reception of the true, and mus remain preventative, till the false shall be given up. Till this i done, explanation is impossible. We admit that Sir Willian could say in all sincerity, "How the will can possibly be free, i to ME wholly incomprehensible," because he had laid down t himself the idea of "absolute origination" as representing th idea of *liberty*, and the idea of "effect" as representing the ide of *motive*. To him, therefore, it was obvious, that if the wil spring from motives themselves an effect, and wanting absolut origination, there could be no liberty. The two (liberty an motive) were incompatible in *his* mind. But this conclusion o our author, it is obvious, is sound only in proportion as his pre mises are sound. Hence the necessity for correctness of defini tion, which we regard as the soul of all sound reasoning. W give a different significance to these terms. Allowing that wil is a "determination by motive," we say that *motive* is the im pulse aroused under a certain association of ideas; and that *free dom* is simply a want of restriction, in the formation and discharg of said impulse. Seeing this, we show that there is no contra diction, but perfect harmony; and that the exercise of huma will is a constant illustration of human liberty. We shall pro ceed to the fuller illustration of our views in the different field of human thought; and whether we have respect to the physica world or to the mental world, we shall invariably find that exist ing conditions (in mind called ideas) are the causal element affinity therein is the moving spring, and relationship by conti guity or association the regulative law, in every operation what soever.

BOOK II.

THE PHILOSOPHY OF PHYSICS.

CHAPTER I.

ON THE FORCES OF THE INORGANIC ECONOMY.

SECT. I.—AFFINITY.

WE have said that Affinity is fundamentally the operative cause in all changes which are effected. We have noted that the term Affinity expresses the nearness or remoteness of gradation belonging to conditions, and, by consequence, the strength or weakness of attraction betwixt conditions. It is observable, that in this, the rule of *general* and *particular*, receives abundant illustration; just as Chemistry itself is that *general* science which comprehends all other sciences; Physics and Physiology, *e.g.*, being simply *particular* sciences under said general. As to affinity, chemists have given names to its *particular* modes of operation. They speak of *Chemical* attraction, or that kind of affinity whereby two different conditions enter into combination, and constitute one new composition. They speak of the attraction of *Cohesion*, or that kind of affinity whereby the molecules of a particular substance cleave or stick together. They speak of *Capillary* attraction, or that kind of affinity whereby one kind of substance spreads itself along the surface of another, or is carried through the interstices of another. They speak of *Gravitative* attraction, or that kind of affinity whereby masses of matter have a tendency to approach one another. They speak of *Elective* attraction, or that kind of affinity whereby a particular substance, submerged among a variety of others, will

manifest a preference for one rather than another, and enter into combination with it rather than with the others. They speak of the law of *Assimilation*, or that kind of affinity whereby certain conditions of substance are transmuted into other conditions, according to the kind of condition pertaining to the type. They speak also of *Magnetic* and *Electric* attraction; but, as we shall find, according to the most recent discoveries, these must be classed under what may properly be termed *Polaric* affinity. They speak also of Affinity in connection with *Heat* and *Light*; but, as we shall see, the philosophy of heat and light, as well as of electricity and magnetism, is but just beginning to be adequately understood.

It seems somewhat difficult at first to find what we might term a scientific commencement,—that is, a point which constitutes the primary beginning, out of which all the forces of nature might be supposed to follow in their order. It seems not irrational to suppose that chemical affinity, in the order of nature, takes precedence of all others, and for the simple reason, that no compound substance can be effected but under this law: no simple *acid* or *base* can exist but under the operation of this law: and no other affinity, whether of cohesion or of gravitation, or of any sort whatever, can have its validity asserted till chemical affinity has first established its results. This had been the first agent employed as the Divine instrumentality, after the construction of the material elements: this had been the agency whereby the varied crust of the earth, throughout the great geologic periods, have acquired their respective characteristics—the agency whereby the Creator, in preparing the globe for man, has furnished it so liberally with minerals and metals of various kinds for the wants and enjoyments of His creatures.

We would have it noted, however, that chemical attraction, as one, of the modifications or particulars of affinity, does, in one sense, stand only in a line and on a level with the attraction of cohesion, capillary attraction, gravitation, and others. Science has developed the grand truth, that it is by the exercise of this all-pervading influence that the earth and the planets are retained in their orbits—that the globe of dew retains its rotundity, or spreads itself upon the leaf—that the debris which floats upon the lake, accumulates into a mass—that the sea exhibits the phenomenon of tides, and the air its barometric changes, and the

sympathy of like for like, is manifested in the various conditions of being.

Taking up, then, the subject of Chemical Affinity, there are two simple questions: first, What gives rise to the operation of chemical affinity? and second, To what phenomenon or phenomena does chemical affinity give rise as a mere operation?

The answer to the first question is simply, *the contiguity of conditions having a certain relationship towards one another.* It is obvious from this, that conditions must first of all be created. Without this, as the special act of an intelligent mind, there can be no force in nature at all—no nature, in fact, commonly so called, as a spontaneous expression of unconscious being. But once grant the fact, 1st, of certain conditions, and 2d, of their association into contiguity under a certain relationship, and we shall have potentiality asserting itself, in subserviency to the nature of the conditions, and that of the combination under which they are brought into contact. The answer to the second question is, that chemical affinity, as producing a mere operation, or force, or momentum, excited by the intensity with which certain ingredients associated enter into combination, is found to produce *heat* and *electricity.*

SECT. II.—HEAT.

Let us briefly enter into the consideration of Heat. Practically, we become acquainted with several ways of producing heat; yet, when duly considered, all the several ways are but *particulars* of one and the self-same *general* principle. The Indian rubs two sticks till they take fire. The school-boy rubs his brass button on the desk, and startles his neighbour with the heat thereof. The blacksmith hammers the nail till it becomes red hot. And what are these, and a thousand similar instances, but an *agitation of the atoms?* Whenever this takes place, then also heat is occasioned. Hence, it is found that the temperature of the foaming cataract is above that of the still, placid lake; and the boiling waves of the sea, as they dash and redash upon the rocks, above that of the quiet, calm ocean. Hence also the heat which arises in all processes of fermentation; and, as is proved, by the action of plants in their growth; and, as has been stated, under the effervescence or commotion produced by the action of chemical affinity.

If we are asked to say what Heat is, we would answer, It is *an indeterminate condition of the particles of matter.* We say *indeterminate,* to distinguish it as a condition, from other secondary conditions, which are fixed and definite, such as hardness, smoothness, blackness. Heat is a *transient quality* of matter—a quality which is easily produced, and which, unless maintained by a producing cause, is readily lost. We know not that we have any absolute experience to the contrary. The heat which is constantly kept up in the vital economy is no exception; for the facts, that there is, first, a chemical action in the processes of digestion, and absorption, and secretion; and also in the process of respiration, where there is a constant outlet of carbon from the blood, at the same time that there is a constant inlet thereto of oxygen from the air, are alone sufficient to raise its temperature; and second, a rapid flow of warm blood, carried by the impetus of a propelling power to the extremities; and third, the constant excitement arising from the action of the nervous system;—these are perfectly sufficient to account for the maintenance of heat in the living body.

The question however is, after all: What is the nature of this indeterminate condition? and what are the immediate effects of which it is productive? We must distinguish it as a mere material state, from the sensation of which it is productive, when applied to our bodies. What, then, can we say of heat, and of its immediate effects? We say this, that, first of all, it is a *mere quality,* which may be superinduced on the determinate qualities of matter: secondly, of that quality we say it is of *a transitory nature,* and therefore we call it indeterminate: thirdly, we say that its immediate effects are so to change the condition of the atoms or particles of a body towards one another, as to produce *a mutual repulsion of the particles,* in proportion as the quality of heat is intensified. We believe it will, therefore, be a sufficiently full definition of heat if we say: *it is that indeterminate quality of particles, under which they mutually repel one another in proportion to its intensity.*

It will be observable from this definition, that we thoroughly discard the idea of what is termed "latent heat;" and that we make no account whatever of some hidden and mysterious fluid, termed "caloric," of which nothing positive can be ascertained; and whose very existence is now beginning to be discovered, as

one of the scientific superstitions which must as surely die out, as any faith of a former day, in the fairies and witches which used to infest society. That the quality of heat produces repulsion, so that atoms, when heated, remove farther from one another, and consequently cause that the body of which they are composed should occupy more space, needs no illustration. There seems to be no exception to the rule, that heat causes expansion, and that cold causes contraction. It is no exception to this rule, that contraction takes place on exposing clay to the fire; for this is the immediate effect of removing its moisture. Nor is it an exception, on the other hand, that expansion takes place when water is turned into ice; for this is found to arise from the polarity, or new direction which the molecules assume in a crystalline state.

When, therefore, the subject of heat is fairly contemplated, we find that *heat is not itself a force*, as usually represented, but is that condition of the atoms which is productive of force. And here our definition of causality precisely applies. We have the molecules of a body already in contiguity: their inherent condition is changed by the induction of heat: the consequence must be, therefore, that as affinity is invariably found to operate according to the condition of the elements brought into contiguity, so it is affinity which constitutes the operating cause, *e.g.* when mere expansion takes place, as when iron is heated; or when combustion takes place, and the particles fly off gradually, as when a stick is burned; or when explosion takes place, and the particles fly off suddenly and violently, as when gunpowder is kindled. All these different effects are dependent, first, upon the differences existing in regard to what we would call the *determinate qualities* of substance; and secondly, upon the intensity with which the indeterminate quality of heat may happen to be induced. Potentiality, as the inherent attribute of substance, expresses itself accordingly.

We need do nothing more than simply refer to some of the phenomena of which affinity is productive, in direct connection with the inducing of the quality of heat. It is under this principle that our thermometers give an account of the changes in temperature. It is on this principle that the steam-engine, one of the most valuable inventions of our time, is made to exert amazing force, for executing the various requirements of man. It is on this principle that we have the production of winds and

currents in the atmosphere. It is on this principle that we have the production of germination in the case of seeds, and of growth in the case of plants, to the full extent which the circle of their possible development will permit. It is on this principle that our fuel is available for all the practical purposes of life.

Let us offer a word upon the question of *conduction*. It is well known that all substances are not equally ready in conducting the quality of heat from particle to particle. To what is this difference to be ascribed? Simply to the different affinity which different substances have for the indeterminate quality of heat. Were it not for this all-wise arrangement, the law of assimilation would reduce everything to the same temperature, and the vast variety of operations in the world would come to a stand. It is by the law of *assimilation* that the particles of an iron bar, heated at one extremity, have the quality of heat transmitted from particle to particle, till it is found at the other extremity. But this law is counteracted in the case of a piece of glass, which may be so heated as to undergo fusion at one extremity without almost affecting the other; there being no great affinity in glass for the condition of heat. It is by the operation of this fact of non-affinity for heat, that certain substances, such as hair, wool, and the like, are peculiarly adapted as covering to the animal body, and form a proper medium of interception betwixt it and the atmosphere; for, in this way, the cold of the atmosphere is not conducted to the body, nor is the heat of the body conducted off to the atmosphere.

As to the effects of heat, we may mention, that it is the basis of introducing another indeterminate quality, viz., *Light*. But before we come to the consideration of light, there are certain other and immediate phenomena to which we must give our attention. We have said, that heat is productive of a molecular repulsion, and consequently a molecular disturbance—a disturbance of the particles of matter. This introduces to us a subject of the utmost importance,—that pertaining generally to the affection of the molecules of a body.

Sect. III.—Electricity.

We have only to bear in mind what has been said as to the atomic structure of matter, and to remember that atoms are the fundamental elements of matter, to come to some understanding

on this subject. The peculiar kind of disturbance which heat occasions, is that of the molecules or particles simply forsaking their respective places by a mutual repulsion of one another, and so producing expansion. There is another kind of disturbance ascertained, which has received the name of a *polar* affection—a disturbance implying such a movement of the particles of a body as denotes a change *in* position, but not a change *out of* position. The latest researches in electricity have led to the conclusion, that it is neither more nor less, as a force, than *a change momentarily taking place in the relative juxtaposition of the molecules of a body*, while the body, as a whole, remains unchanged. We therefore discard the notion, however prevalent, which regards electricity as an ethereal fluid of extreme tenuity; for no account can be given of it,—no science can be had as to its mode of subjection to our manipulation, nor of its mode of connection with ordinary matter, even if we grant its existence. Holding to the wise maxim, *Entia non sunt multiplicanda præter necessitatem*, we believe the agency of electricity can be rationally understood, without supposing the existence of any such mysterious fluid.

It is not easy to describe precisely, that kind of affection or commovement of the particles, effected by the electric force. If we remember that the atoms of material bodies are generally arranged in some regular juxtaposition; and that in some substances the atoms so arranged, are readily susceptible of being moved *in loco*, just as a spring-door on its hinges is moved *in loco*, but whose elasticity at once throws it back to its natural and normal position, so soon as the pressure which affected it, is removed; we shall then (as we believe) have some slight idea of the action of electricity. The disposition or placing of molecules with respect to their mutual local relation to one another, is termed their *polar arrangement*. Electricity might therefore be defined as *the disturbance of polar arrangement*. The molecules or particles undergo a momentary tension or distension, and afterwards rebound or relapse, by an equally momentary spring, into their ordinary relative state. We know not if we can compare this tension, as effected, for example, by the electric machine upon the coating of the Leyden jar, to anything better than to the *staring* of an animal's coat of hair; nor the release of the electricity, when the discharge takes place, to anything better than to the

sleekness thereof.[1] If we can imagine the atom susceptible of being thrown either way, just as a swing-door, whose tendency is nevertheless to return to its natural position, by reason of the spring attached to it; and if we can imagine the correlative position of the atoms of certain substances to be such, that the movement or disturbance created at one terminal, of an iron wire, for example, to be assimilated throughout, and therefore precisely conveyed to the other terminal; then is our idea of electricity expressed.

Had the science of electricity, in respect of its mode of operation, been as yet absolutely agreed upon, we should have been spared the necessity of describing the *modus operandi;* because our object is, after having ascertained this, to point out that *causal law,* in virtue of which any effect is produced. Granting, then, that electricity is what we have endeavoured to describe it, we ask, whether or not all the phenomena of conduction, and all the varieties of electricity, cannot be rationally expounded and referred to *one common principle?* As regards conduction, we explain it upon the same grounds on which we explain the conduction of heat. As regards heat, we have said that certain substances have an affinity for this quality, while others have not; and hence the heat, which is applied at the terminal of some kinds of substance, is readily conveyed from particle to particle, and so comes to pervade the whole; while others, having no affinity for heat, fail to transmit said quality. As regards electricity, we say such is the strong affinity which the molecules of certain substances have for their own polar arrangement, that when any molecular disturbance is applied at one terminal, it fails to be carried onwards; while others, as soft iron, for example, whose affinity for its polarity is less tenacious, is readily susceptible of the commovement impressed. In this way, while one substance fails to be a conductor of electricity, another operates in this way; and different qualities with different degrees of readiness.

As regards different modes of electrical action, known as machine electricity, galvanic electricity, thermal electricity, and the like, while experimentally they are found to be convertible, they are scientifically discerned as *particulars,* and as one and all

[1] *Qu.:* Has the microscope been applied to the Leyden jar, to detect any distinction in its coating, when changed?

belonging to the self-same *general* principle of operation, viz., *the disturbance of molecular polarity*. What is the shock from the Leyden jar, but the *discharge* of the tension of the particles produced by the machine? What is the discharge from the electric cloud, as it enters another cloud, or some mountain peak or elevated building, but a similar sudden and instantaneous release of the tension of molecules, acquired under a peculiar state of the atmosphere—a state fundamentally dependent, no doubt, on heat, as generative thereof? And what are the thunder and lightning attending said discharge, but the noise and fire arising from the intense friction, which the particles must necessarily undergo, analogous to the spark in the common discharge of an electric machine? And what is the electricity generated in the wires of a galvanic battery, but the molecular vibration produced by the chemical action of the zinc and copper plates placed in combination in the galvanic trough? And what is thermal electricity, as generated by the heating of an iron bar at one extremity, while the other is kept perfectly cool, but the molecular disturbance produced by heat, as causing the repulsion of atoms *e loco*, carried onwards, and for want of heat developing itself, as mere disturbance of atoms *in loco*? And what is the electricity in our telegraphic wires, whereby we send immediate despatches from one end of the land to the other, but the momentary disturbance of polar arrangement, caused by the blow of the manipulator at one terminus, and conveyed by mutual sympathy throughout the whole length of the wire to the other terminus, and correspondingly developing itself there, upon a delicate index fitted to receive and to describe it? An example of the sympathy subsisting among the atoms of the same substance may be found in an experiment, mentioned by Liebig, when stating that it is perfectly possible to reduce water to a temperature below the freezing point, without turning it into ice, provided there be no agitation; adds, that if in this condition, it be but touched with the point of a needle, it will be instantaneously converted into a solid crystallized mass; the very movement of one particle towards a change of polarity, carrying all the others along with it.

SECT. IV.—MAGNETISM.

It is here we must take up the subject of *Magnetism*, as being

in direct relationship with Electricity. We hold magnetism to be neither more nor less than a branch of the same law or principle which constitutes electricity; its peculiarity being, that it simply exercises a transverse power to that of electricity. This doctrine is illustrated by winding a coil of wire round a bar of common soft iron, and then passing a current of electricity through the wire. The iron bar becomes a magnet, so long as the current of electricity continues in the wire; and the magnetic action is thus at right angles to it. But this description goes so far only to explain magnetism. Suppose the current of electricity through the iron wire continuous and uninterrupted, then would the particles in the bar of iron, be in something like a *static* or continuous polarisation. Now, it is perfectly possible to obtain this continuous polarisation in a fixed and permanent condition, without the constant induction of a stream of electricity. Magnetism is properly *a static polarisation of the particles of matter*, and, consequently, it exercises merely a *directive* power; while electricity, from the fact of its being a momentary disturbance, is essentially an *impulsive* power. The great distinction, then, betwixt electricity and magnetism is this, that the former is properly a force dependent upon a causality operating *ab extra*, and is the momentum, which throws the molecules out of their normal juxtaposition, and this but for an instant; while the latter, as a peculiar polarisation of the particles of a body, rendered static or fixed as such, exercises force, only in so far as the law of affinity operates, by contiguity, to produce a *like direction* of the particles in an adjacent body; and, in virtue of this directive agency, naturally draws the body affected to itself; it being obviously a law, that where one body of peculiar polarity, in contiguity with another, changes the polaric arrangement of the other, into a similarity with its own, a new sympathy and affinity is established.

Upon what principle, then, do we explain the influence possessed by magnetism—that influence which produces a certain symmetrical arrangement of iron filings when strewed around the magnet—that influence which produces the magnetisation of a bar of steel when rubbed in a particular manner over it? We reply, upon the principle of *assimilation*. It is this principle which keeps all the atoms of the same substance under the same polar arrangement; and it is obvious enough, that it is this prin-

ciple which operates in influencing the polar arrangement of certain other substances when in contiguity with the magnet. All that is required, in order to attest the efficiency of a magnet upon another substance, seems to be, that there must be a direct natural affinity betwixt the two substances—that kind of affinity which comes under the name of the attraction of gravitation. Then it is that, the molecules of the one substance sympathising with those of the other, the peculiar polarity of the one comes also to determine that of the other, as the more susceptible of the two.

The directive or formative influence of magnetism, leads into a most magnificent and interesting train of thought, even into a consideration of that mode of operation whereby the Creator has established that law of nature, in virtue of which, various *formation* takes place, in the reproduction of creatures after a particular type or model. But we shall defer the consideration of such phenomena to another chapter.

Sect. V.—Light.

We pass on to the consideration of *Light*. Light is perfectly analogous to Heat. Heat we have described as an indeterminate quality: we give the self-same character to light. Scientific explorers have been sorely puzzled to bring out something like a consistent theory of light. The *corpuscular* theory of Newton, which held that luminous particles are thrown off by the sun, the grand source and centre of light, is now deservedly falling into disrepute, as inconsistent with facts respecting the nature of luminosity; and failing, even if the theory were granted, to describe, after all, what is light. Another theory, which has been more or less in vogue for some time, is called the *wave theory*, which holds that light is a thin ether—a subtle fluid, pervading space, luminous when in motion, dark when in repose: easily agitated and cast into regular vibrations, propagating the motions like a ripple on the water. We cannot accept of this theory: we feel confident that, notwithstanding the countenance which it has received, it is destined speedily to be set aside. It fails, in the first place, to give any adequate idea of what light really is. To say that it is a very refined ether, is begging the question in respect of a substance of which we know nothing whatever—of whose existence we should have no knowledge at all, save

when it puts on the characteristic of light. To say that this ether acquires luminosity by agitation, is also begging the question: it is a mere supposition, unsupported by any analogy, and not sustained by any proof. Further, it fails to point out under what precise principle light is transmitted. For, granting the fact, that the sun is itself the source of those vibrations, whereby undulations of light are effected, what do we know of the nature of said vibrations—of their mode of production, or of their mode of propagation? Can we reproduce anything of the sort in the laboratory? But again: Does this theory give a consistent view to correspond with the known compound nature of light? If, essentially and fundamentally, light consists of a subtle ether, so refined as to be beyond the ken of our intelligence, excepting when it puts on the character of luminosity, ought we not to suppose said ether as approaching the farthest boundary of materialism; and therefore, in respect of materialism, to be of a simple and primary nature, whereas prismatic refraction proves it to be highly compounded? Besides, as to its chemical properties, who can explain, upon the principle of its being an ether, its solidifying as well as colouring efficiency? We hold that the wave theory can only keep its ground for a day, simply for want of another and a better. Like the theories which have prevailed respecting heat, electricity, and magnetism, light, too, must have its mysterious "fluid," as accounting for its varied phenomena. We shall only say, that so long as we are dependent on principles like these, we are utterly out of the region of science, and purely resting in that of faith. We are the last to decry faith; but if we are to stand in the region of faith, let us not, at the same time, term it the region of science. If of science, then it is taken out of that of faith, in as far as science, properly so called, rests its conclusions on facts; and, if sound logically, rears the structure of its philosophy on a foundation, and by gradations, which cannot be questioned. If of faith, then there ought to be some evidence, as to the grounds on which we rest our belief; and if said evidence comes to be proved untenable, the very ground of our faith is thus removed.

We beg to substitute another view of light, different from either of the preceding. In so doing, we describe light to be *an indeterminate quality of matter;* and therefore, in this respect, precisely analogous to heat. That it is a quality which *may be*

manifested as belonging to material substance—that material substance can be exhibited as having a varied capacity for this quality, is agreeable to the experience of all. That it is initiated, or begotten, through the production of heat, will be generally allowed. That it therefore stands in the order of nature, as a phenomenon, ulterior to that of heat, and is indeed the ultimate and highest phenomenon of which material substance is susceptible, is in accordance with all our ideas. Yet, though *primarily* produced under the development of heat, we find it may be propagated irrespective of heat; at the same time, not so propagated, but that it is dependent for its continuance on the presence of a lighted or luminous body.

Now we ask, what characteristic does light display, which we cannot account for on the theory we have just advanced? Are we asked to account for its transmission? Our answer is ready: we say, it is by affinity. It is a universal rule, that affinity operates under the contiguity of different qualities. Here is an illustration. Given a lighted body, and a medium having a ready susceptibility for the condition of light: no sooner are they brought into contiguity, than, by affinity, said quality is instantly conveyed thereto; and the rapidity with which said quality is transmitted, will always be in accordance with the receptivity of the medium in question for its conditions. The force, therefore, displayed by light in its transmission, is simply analogous to, or rather stands in the same category with, the force that is displayed by the operation of chemical affinity, or of capillary affinity, when these are exhibited by the contiguity of different conditions. That there is a medium, or plenum, through which the light of the sun is conveyed, ere it reaches our atmosphere, cannot be doubted—a medium, indeed, which remains in the exhausted receiver of the air-pump, whereby an *entire* vacuum has never been effected. Whether the rapidity of light is in some degree modified, when it reaches our atmosphere, by the difference of medium, we are not prepared to say. It is enough for us to know, that our air has a ready affinity for the condition of which we are now treating.

Are we asked to account for the red, orange, yellow, green, blue, indigo, and violet, of which our daylight is composed? We refer to the synthesis or combination of which the lighted body is composed. These are the ingredients of the sunlight of our

atmosphere. But it may be said, that there are but two, or at most three, primary ingredients in our atmosphere: how then shall we refund seven distinctive colours? We answer, that many modifications may be produced by certain combinations of the primary elements. And, indeed, Brewster and others regard atmospheric white light as consisting only of three colours, from which all the others can be formed.

Are we asked to account for the generation or begetment of light? We refer, of course, on the theory now stated, to the determinate qualities of the substance producing the light. It is primarily begotten under the preliminary production of heat. It is under the intensification of heat, when that process termed combustion takes place, that the development of that condition is manifested, which we term luminosity. Some substances will very readily exhibit the phenomenon of light; others again, having different intrinsic condition, have little disposition thereto. Some, again, are so constituted as readily to take on a lighted condition without combustion, and apart from the condition of heat, as our own atmosphere and transparent substances; but this only, so long as the light is maintained by the presence of a body intrinsically illumined by its own combustion. All is illustrative of our maxim, that every phenomenon is due to conditions, and to the relationship thereof, when these are in combination.

Are we asked to account for the phenomena of which light is productive? For example, the colouring of plants is indebted thereto: We refer this to the principle of affinity. It is thereby that certain rays will be absorbed, while others will be rejected; and thus variety of colouring will be produced, according to the inherent susceptibility of the quality for the tint or particular colouring demanded. The woody structure of plants is indebted thereto: We refer this to the change of condition produced upon the particles of atmospheric air, when lighted, as adapted to give out its carbonaceous element to the vegetable sap in the leaf, for this purpose. The health of animal, as well as of vegetable life, is indebted thereto: All this is to be ascribed to the different condition of the atmosphere when lighted up, as compared with a state of darkness; the oxygen of the atmosphere then mingling more freely with the blood.

Are we asked to explain the principle of the polarisation of light? We refer to the character of the substance which is the

subject of light; for there is no such thing as light apart from a material substratum. Polarisation can only take place when there is a *free motion* of the particles or molecules of the substance affected. Our atmosphere is readily polarised, whether it be in a state of luminosity or not; and the polarity is to be explained on the principle of magnetic influence, as elsewhere stated. It is simply an exhibition of the structural peculiarities of an existing type in the medium adjacent thereto. Thus, forms of the most minute detail, and of the most exquisite symmetry, are presented, according to those prevailing in the configured substance whose image is reflected. Said forms, as we know, may be recovered on a surface suitably adapted to receive them. And the field of such representation becomes indefinitely enlarged by the process of actinism, produced by a state of luminosity. To this we are indebted for the power of vision; and without this, photography would never have been known. To this subject we shall recur when treating of Configuration.

Before leaving the subject of Light, we may notice how we get rid of the doctrine of "imponderable matter," just as we get rid of the doctrine of "latent heat." It is well known that light is not affected by gravitation, nor can the most delicate balance detect any influence when a stream of light is brought to bear upon it. This is in perfect accordance with the theory which we have propounded; for the affinity of the air for the earth, is the same, whether in light or darkness. And light being the transmission of a quality, without any motion on the part of substance realising said quality, it follows that the ponderosity of light is out of the question.

We have said that light is a *transient* or *indeterminate* quality; and, practically, so it is: and we have assigned to it this term, to distinguish it from qualities which are fixed and determinate. Yet we are not to forget that there is such a thing as the fixation of light, as we perceive in the luminosity of the diamond; a result, in all probability, arising from the development of that quality which constitutes light, in a substance having the highest possible affinity for it. While substances, in general, may have light developed, when the quality of heat is developed; yet substances, in general, will not retain the quality of light, as not being the normal condition inherently belonging to the ordinary qualities of matter.

SECT. VI.—OTHER FORCES.

We may note that the very principles which prevail with respect to heat and light, seem precisely to apply to Odour. Odour may be regarded as, in certain cases, something like a determinate quality; yet it is, unquestionably, to be placed in the same category with light. The corpuscular theory of odoriferous particles being thrown off from the odoriferous substance, is not to be entertained. The very fact of musk retaining and transmitting its flavour for many years, without diminution of weight, would militate against such a theory, while analogy points out the true explanation. It is obviously by affinity that the air becomes infected thereby; and it is obviously by affinity that the nerves of the nostrils carry home to intellect the sense of smell, which gives a sensation of the odour existing.

Sound also must be regarded as an indeterminate quality—a quality which may be excited in material substance, even as heat or light; but which cannot be sustained therein, any longer than the exciting cause prevails. It is by affinity that sound is propagated; and its conduction depends on the character of the conditions through which it is to be transmitted. As regards the transmission of sound, it must be held to rank in the same category with heat, light, and odour; and requiring a vibration of atmospheric particles, communicated by the utterance of a body wherein the sound is generated.[1]

CHAPTER II.

THE FORCES OF THE ORGANIC ECONOMY.

As Causality operates in the Inorganic, so also does it operate in the Organic Economy. As it is with the Physical Forces, so it is with the Vital Forces. They are invariably dependent on *related conditions in contiguity*. Life, or vital force, whatever

[1] Perhaps it might be a preferable term if we were to denominate Heat, Light, Odour, Sapidity, Sound, and Tangibility, the *Sensational Qualities* of *matter*.

may be the feature of its operation, stands to the composition belonging to organic structure, as physical forces stand to the combinations of inorganic matter. In the science of Vitality, we have organised matter in variety of condition, as the objects brought into contiguity, and whose affinity is expressed accordingly; which science, as a whole, must be regarded as subordinate to, and dependent on, the science of Physics. Physiology, as well as Physics, belongs to the category of Chemistry; and if once we grant affinity in respect of the conditions of organised bodies, as well as of inorganised, we shall discover, that it is the *moving principle* in all the operations of vitality; while relationship is the *regulative principle*, whereby all operations are conducted to a specific end. Potentiality being a fundamental attribute of substance, inseparable from substance, it is expressed as force under the contiguity of conditions; and as special or particular force, according to the special local conjunction of particular conditions. Life, then, is but a distinct manifestation in the organic, of the dynamical agency which prevails in the inorganic kingdom.

SECT. I.—THE VEGETABLE DEPARTMENT.

The Organic comprehends two great departments, the Vegetable and the Animal. The vegetable is properly preparatory, and therefore preliminary, to the animal. In the living vegetable, motion is being constantly exhibited, as well as in the living animal; and the question is, how to account for that motion, whereby varied functions are discharged, whereby growth is manifested, and all the developments of the living creature are matured and perfected. Here, as well as in the kingdom of pure physics, men have usually had recourse to the invention of a cause. In more ignorant and less scientific times, men felt themselves constrained, by the very negative principles which they ascribed to matter, as wholly passive in itself, to suppose the existence of a spirituous entity, not precisely belonging to the category of matter, yet presiding over, impelling, directing, and controlling its movements; of which entity, however, as lying wholly in the region of mystery, nothing whatever could be known. As, in physics, we have had before us various imponderable fluids; so, in physiology, we have given to us the "vital fluid" to account for the phenomena of vitality. It is only now that we are beginning to get extricated from the meshes where-

with science has been interwoven, to its great prejudice and hindrance. For the supposition of a vital fluid, as presiding over the functions of life, did not, of course, lead to any fuller explanation of vitality, but left the science thereof as grounded in mystery. It so far satisfied many minds, when it served as the stalking horse, to accomplish all that was otherwise inexplicable; and it was regarded as savouring of irreverence and presumption, if any further inquiries were attempted. We doubt if this feeling is even yet wholly banished from amongst us. The infallible dictum is still sometimes heard about the undiscoverable; as if it were not at least equal presumption to pronounce what *cannot* be discovered, as to say what *may*. It is well that we should search carefully into our foundations; for, as we make progress in the knowledge of truth, we shall find, as the source of our false philosophy, that we have been admitting, as explanatory of phenomena, elements, the very existence of which has to be questioned: one chief mischief of which is, that when a mysterious self-acting natural agency is set up, as the origin of natural law (an agency for which, of course, there is no direct *disproof* against it, seeing there is no direct *proof* for it), it constitutes a grievous hinderance to the progress of science; for it is a rule of our nature, that what we have primarily been instructed in, and educated to, and brought up with, we naturally keep with a tenacity, which nothing but an overwhelming sense of its falsehood will serve to set aside.

Discarding, then, the theory of a particular fluid called the "vital principle," we endeavour to account for the operations of vitality rationally, and therefore scientifically, just as we account for the motions that go on among the globes of the firmament, among the clouds of the sky, among the tides of the ocean, among the mists, as they ascend in vapour, and descend in rain. All is to be ascribed, as we believe, to *one general principle*, as manifested under a *variety of particulars*, which is the case with every general principle. That this general principle—the principle of affinity—has its existence, is admitted as an unmistakeable fact:—a fact which all our advances in chemistry serve only more fully to illustrate—a fact which all our reflections on philosophy serve only more fully to confirm—a fact to which all our experiences in life serve instinctively to point—a fact which proclaims, that *there is a oneness of principle throughout all the departments of*

God's universe. It is by *elective* affinity that the rootlets of the plant select that juice or nutriment in the soil which is most congenial to its nature. It is by *capillary* affinity that said juice is carried upwards to the leaves. It is by *chemical* affinity that a change takes place upon said juice in the leaves, by its contiguity with air in the conditions of heat and light. It is by *capillary* affinity again, that the juice, when changed in condition, descends in another set of vessels, adapted for receiving it and conveying it into the varied interstices of the plant. And it is by the law of *assimilation,* that the juice, thus prepared as the plasma of the plant, undergoes that conversion whereby it acquires whatever conditions the different parts of the plant may happen to demand.

Growth, amid all its developments, is similarly accounted for; but this, as having respect to reproduction, belongs to the category of form, and not to that of condition. All we shall say here is, that heat is the primary energiser whereby expansion is produced; and, consequently, giving scope for the play of that affinity, whereby the interstices, thus produced, are filled up with the plasma suitable for assimilation; and, consequently, giving occasion for the operation of those magnetic influences, whereby the amorphous substance comes to take on a structural character in accordance with that of the cell, whose type alone can be reproduced. All that is required is, that there be a susceptible or impressible element adjacent to, or in contiguity with, the type whose image is thus to be magnetically formed anew. But we must not anticipate what we have deferred for separate consideration. We proceed to the Animal Economy.

Sect. II.—The Animal Department.

The law of Affinity explains the various activities of the Animal Economy. In every breath we draw, there an exchange takes place betwixt the air inhaled, and the blood for the time in the capillaries of the lungs; and this exchange is simply an illustration of that chemical affinity known as Endosmose and Exosmose in Physics. The air inhaled attracts the carbon in the blood, as having a superior affinity for it; and the blood attracts the oxygen in the air, as having a superior affinity for it; and so, while the oxygenated blood passes onwards into the animal system for its use, the carbonated air is expired, or thrown

out into the atmosphere around. It is by the law of affinity, alone, that we can explain the appropriation of the blood by the different conditions of the system—bone, sinew, muscle, cellular tissue, nerve, brain, and so forth; to each of which, respectively, it is susceptible of being assimilated. It is by the law of affinity that we can explain the action of the kidneys in the secretion of urine, and that of the liver in the secretion of bile. It is by affinity that saliva comes into the mouth, and gastric juice into the stomach, and bile into the intestines. It is by affinity that we can explain the chemical change which the food undergoes in the stomach, when, by a mixture of gastric juice, it is converted into *chyme;* and also, the further change which it undergoes on entering the duodenum, when, by a mixture of bile from the liver, it is turned into what is called *chyle.* The same law of affinity also explains to us how the nutritious part of the chyle is absorbed by the lactic vessels, distributed on the walls of the intestines, just as the rootlets of a plant absorb suitable nourishment from mother-earth. It is by affinity that said nourishment passes through what are termed the mesenteric glands, where it is gradually assimilated to, and takes on the characteristics of, the blood; and prepared, therefore, for being conducted into the thoracic duct, as leading into the current of the blood of the system.

But, further, there is the nervous system, consisting of nerves proper and muscular fibre, the properties of which do not belong to vegetable composition, and therefore constituting a peculiarity of distinctiveness as pertaining to the animal department. The nerves, as they conduct to the muscles, are the instrument of animal movements, strictly so called; and the nerves, as they conduct to the brain, are the instrument of mental operations. Through them, as a channel of communication with the external world, does the individual become conscious of what is passing around him; and through them, as a channel of conveying mental impressions to the muscles, is the individual capable of performing operations according to its desires and determinations.

The question now is, upon what principle are we to explain the operation of nerve-force? We have no hesitation in saying, it must be of a kind analogous to electric force? We cannot but regard the nerves, which are everywhere spread over and *within the body,* as so many electric wires, conducting impres-

sions, as made upon them *externally*, onwards to the brain, as in contact with intellect *internally*. That this might be the case—that this was even matter of probability, scientific men were not generally slow to allow; but the difficulty has always been to obtain anything like adequate proof of the fact. The proof required, seems now to be at hand; especially since electricity is coming to be regarded in the scientific world as a *polar force*, the result simply of a molecular disturbance. If we take into account the difference of composition in the respective media, we shall find the strongest possible analogy betwixt electricity and the operation of the nerves. Both are excited by the application of stimuli, such as friction, pinching, or pricking; and, what is more conclusive, it is sufficiently ascertained, that the one is productive of the other. "A feeble galvanic current (says Dr Carpenter) transmitted along the motor nerves [the nerves leading from the brain to the muscles] of an animal recently killed, will call the muscles supplied by it into contraction." Experiments in proof of this are common enough; and there is the well-known case of a criminal who had been operated upon in this way, after being suspended as dead upon the gallows for about an hour. According as the galvanic rod was applied to the nerves operating upon different muscles, so were these agitated with convulsive movements. The chest was made to heave and fall—the leg to be thrown out with violence—the muscles of the face to undergo a variety of contortions, expressive of rage, horror, anguish, and ghastly smiles. Still, such examples were, after all, regarded but as a kind of negative proof: it was felt that something was wanted, on the side of nerve force itself, terminating in the production of electricity. We might have pointed to the illustration of this afforded by the Torpedo and Gymnotus: yet, after all, these were considered as cases *sui generis*, and therefore not conclusive in respect of the nervous system throughout the animal economy in general. Dr Carpenter tells us he was an eye-witness of experiments demonstrative of the similarity of the nervous current and the electric current, and says, "He gladly bears testimony to their highly satisfactory character, and withdraws the doubt which he had previously expressed in regard to the reality of this phenomenon."[1] Dr Sir Henry Holland, referring to this subject, says, "More recently,

[1] Human Physiology, § 670, Note.

the experiments of M. Du Bois Reymond of Berlin have given a new aspect to this argument. By the use of a most delicate galvanoscope, he professes to have obtained distinct deviations of the needle from currents produced by muscular contraction; and these remarkable experiments (repeated before and reported on by the French Institute) have been certain and constant enough in result, to warrant their being regarded as a distinct physical fact, and supply a great void in the evidence."[1]

We may rest satisfied, then, that the nerves in the animal economy are precisely analogous to conductors of electricity in the physical world; and that, as a general rule, their office is to convey impressions, as made on the terminals without, to the corresponding terminals within, for the purpose of being lodged in a common sensorium. There are five qualities of nerves exposed *externally*, each having its own peculiar affinity. One sort receives impressions in light, and is attached to the eye: another receives impressions of sound, and is attached to the ear: another receives impressions of odour, and is attached to the nostrils: another receives impressions of savour, as realised in the mouth: a fifth receives those impressions, which arise from the mere contact of an object with the body, which kind is termed the nerves of touch. All these different kinds have one characteristic in common, viz., that of transmitting the impressions made upon them respectively to the brain: yet have they each this distinction, that the impressions which affect the eye have no influence on the ear; and, *vice versa*, impressions which affect the ear have no influence on the eye. So also of the others: the nerves which convey the mere impressions of touch, giving no intimation whatever in respect of taste or smell; each kind of nerve having its peculiar affinity for certain qualities merely.

This variety of nerve-quality constitutes what are termed the five senses, which are properly so called, not that there is any sensation whatever in them, but because they are the media or channels of communication betwixt the external world and intellect; and because these, as a whole, are the instruments of sensation in respect to the properties of the external world. "Our assurance (says Dr Carpenter), that it is through their instrumentality that the mind is affected by external impressions,

[1] Mental Physiology, p. 293.

rests upon the fact, that if an interruption exist in the transmission, those impressions are not felt." Again, he says: "If it were possible for a human being to come into the world with a brain perfectly prepared to be the instrument of psychical operations, but with all the inlets to sensation closed, we have every reason to believe that the mind would remain dormant, like a seed buried deep in the earth." The brain, in such case, like an instrument of music *unused*, would lie absolutely still, giving forth no utterance, for want of impressions being brought to play thereupon. We explain the operation of nerve force precisely as we explain electric force, by referring it to polaric action; while the principles of conduction depend upon the mutual affinity subsisting betwixt the conditions to be transmitted on the one hand, and the nerve for transmitting them on the other.

As regards muscular contractility, the self-same principle, viz. affinity, goes sufficiently to explain the phenomenon. The nature of muscle is to contract whenever it is affected by particular conditions. Hence, when the food which we swallow enters the œsophagus, it is borne downwards by the contraction which its presence creates, till it has passed the cardiac orifice of the stomach. In the same way are we to account for the transmission which is effected from the pyloric orifice of the stomach, as it gives entrance into the duodenum, till excretion is effected at the rectum. In respect of all voluntary movements of the body, we know that they are effected by muscular contraction, and that this is effected by the impressions transmitted through the motor or efferent nerves. And what are said impressions, but the application of certain conditions to the muscles, which application, as we have said, produces in them the phenomenon of contraction? What are the rhythmical movements of the heart, but the expression of its peculiarity of endowment as an organ of muscular tissue? And what gives rise to this expression, but the affinity arising from the presence of the blood therein, and the passage of the blood therefrom? The auricles and ventricles are so constituted, as to contract so soon as they are filled with the blood, and consequently, by contraction, to force out the blood; while they are also so arranged, that, as the former contract, and so force out the blood, the latter dilate by its absence, and therefore becomes prepared to receive it, for impulsion into

the arteries. The movement of the heart has been compared to the ciliary movement in cells; and, no doubt, so far as both are dependent on affinity, the movements are perfectly analogous. Dr Carpenter judges, that "as a Leyden jar may be so charged with electricity, as to *dis*charge itself spontaneously; so it is easy to conceive that a muscle may be so charged with motility, or motor force, as to execute spontaneous contractions." "It is not very difficult (he adds) thus to conceive that the ordinary rhythmical movements of the heart may be due to the simple excess of this motility, which is being constantly supplied by the nutritive operations, and is as constantly discharging itself in contractile action." There is an amount of truth in this explanation, provided we understood the meaning of such terms as "motility," and "excess of motility." We are to remember, that such terms, in themselves, are necessarily without meaning, that is, if used abstractly. There is no such thing as motility *per se:* all motility being the capacity of movement, as depending upon the constitution of conditions; and all *motion* being the fact of movement, arising from the contiguity of conditions particularly constituted and arranged. In all cases, then, amid all the variety of the vital functions, as well as in all the phenomena of inorganic nature, one rule of causality stands, and invariably holds good—a rule exhibiting at once the simplicity of nature throughout all its complexity, and the oneness of principle pervading the whole of the Divine arrangements—a rule which, in its scientific aspect, may be reduced to the following formula: *Given certain conditions*, having inherent relation to one another, *and also a certain contiguity, or external or local relationship of the conditions; to find the precise operation or phenomenon.*

CHAPTER III.

THE CAUSALITY OF STRUCTURE.

CONFIGURATION stands in apposition to composition. The former has respect to the *Forms of Quantity:* the latter has respect to the *Conditions of Quality.* They are, as we have seen, inseparable from one another: the former being the external, the latter the internal, characteristic of matter. In connection with *composition,* we have seen how the various *forces,* in the departments of Physics and Physiology, have had their rise under the principle of affinity. It is now our business to show, in connection with configuration, how the various *forms,* in the same departments, have their existence initiated. It is obvious, that *there is no force without its form.* While, then, we have been dealing, in the last two chapters, with what may be termed the *internal* characteristics, we would now briefly have regard to what may be termed the *external* characteristics of substance: and, first, in the department of Physics; and, second, in that of Physiology. The law of formation, in the one case, is termed *Crystallisation:* the law of formation, in the latter, is termed *Organisation.* The principle under which form is propagated, is that of assimilation: —assimilation to a previously existing type. Assimilation stands to form, precisely as affinity stands to condition. As there could be no affinity without conditions, so there could be no assimilation without forms. Moreover, as condition and form stand to each other in the correlative states of internal and external characteristics, and are therefore inseparable from one another, so it is with respect to affinity and assimilation; it being always observable, that as the relationships which pertain to those conditions, which, under contiguity, effect *composition,* do, in the order of nature, take precedence of those relationships, which, under contiguity, effect *configuration;* so, in the order of nature, affinity takes precedence of assimilation, and the operation of assimilation is necessarily dependent on that of affinity.

Sect. I.--Crystallisation.

We have given it forth, as most probable, if not certain, that atoms, in their primary constitution, have each some fundamental form, as its *external* character, as well as fundamental condition, as its *internal* character. Were not this the case, whence, we might well ask, come those definite forms, which are recognised in Crystallography?[1] And having these in various configuration, how are we to account for them? The doctrine of isomorphism posits the fact, of certain typical forms, as having a moulding or modalling influence throughout the process of crystallogeny. In every case of chemical union, two conditions are necessarily concerned, the form of the compound taking its rise from one element in preference to the other, or being a modification of each, according to the typical position of either element in their component relationship. The molecules of a particular substance, therefore, as being each the compound atom formed from the union of primary atoms, will, on this principle, take the form, generally, of that atom or element, which exists as the base or type, while more or less modified by the combining atoms. Hence groups have been classified, adhering to a certain general molecular form, according to a fundamental type in the base, and preserving the character of said type, notwithstanding the substitution of one element for another.

There are two inquiries on this subject: the one has reference to the formation of the molecule, which constitutes the smallest possible atom of the compound substance: the other has reference to the formation of the crystal, as an aggregation of similar molecules.

[1] "A difference in the ultimate molecules seems scarcely reconcilable with the definite form belonging to each aggregate, when its parts are allowed to arrange themselves in their natural order, uninfluenced by disturbing causes. It has been ascertained by Hauy and others, that every solid body possesses a peculiar geometrical arrangement, from which all the manifold varieties of form it presents can be shown to be derivable. All of these figures may be reduced to six primary types, enumerated in works of mineralogy; and the kind of crystallisation assumed by the same mineral body, is the result of an apposition of an assemblage of smaller crystals, possessing the fundamental type of the species, in a variety of different modes,—all, however, conformable to certain fixed laws."—*Professor Daubeny on the Atomic Theory*, p. 67.

As regards the first of these inquiries, we have no doubt the theory of Dalton is substantially sound, that molecules, or compound atoms, are formed by the union of primary atoms, of different essential quality, one to one, one to two, one to three, etc.; a compound atom being found also to join itself in the same manner to a compound atom of another kind, when a second order of combination results. The theory of their combination is perfectly explicable upon the principle of affinity; and their varied combination brings out, of course, a variety of quality, according to the composition of the compound. But it brings out also a variety of form, in dependence on two considerations: first, *the essential forms of the combining elements;* and, second, *the peculiar contiguity in which they may happen to stand related to each other.* We lay down these two principles, as maxims prevailing in the formation of all characters of molecule, belonging to all material substance, throughout the inorganic or physical economy. They embrace the results of our experience with respect to formation, by means of large masses of matter brought into combination; and Reason knows of no distinction, when the masses of matter are the minutest possible atoms. We have simply to remember, that, as respects the atoms, they are definite in their constitutional form: at least, if they are susceptible of modification therein, there does not seem as yet any means of proving this. Granting, then, that atoms have each their own distinctive and individual form, it is obvious enough, that when brought into contiguity, they might enter into union more readily in one direction than in another. It is fundamentally an illustration of the law of polarity, so readily observable in the compound substances with which we are conversant. Liebig tells us: "When matter is passing from a gaseous or liquid state slowly into the crystalline form, an incessant motion is observed, as if the molecules were minute magnets, they are seen to repel each other in one direction, and to attract each other and to cohere in another, and in the end become arranged in a regular form:—crystals are formed."[1] This language, with slight modification, describes our idea as to the formation of molecules. Primary atoms, in their natural combinations, we believe, "repel each other in one direction, and attract each other and cohere in another;" and so a molecule is produced—a foundation is laid in

[1] Letters on Chemistry, p. 162.

the initiation of a compound particle, the aggregation of which constitutes a crystal of greater or less dimensions.

We have now to account for the forms pertaining to the inorganic, as manifested in the various shapes produced in crystallogeny. Stockhardt says: "In inanimate nature, a mysterious power exists, similar to that which compels the bees to construct their six-cornered cells, and the potato to produce its five-angled corolla and five stamens, and by which the smallest particles of bodies, called atoms [molecules], are found to arrange themselves in a fixed order, assuming a regular shape. But this can only be accomplished by a body in its fluid or aeriform state, since *free motion* of the atoms is essential; and crystals are always more regular, the more slowly they are formed" (Chem., § 50). A power is mysterious always till discovered; and then, when its principles of operation are found out, and its mode of operation apprehended, it is no longer mysterious. We shall, in the next section, endeavour to illustrate the causality, whereby structure is accounted for in the processes of organisation: our present business is to account for formation in crystallisation. That there are analogous points, we have no doubt. Henle says, that "crystals, like cells, arrange themselves to form aggregates." And he adds: "The most significant analogy between crystals and individuals of the organised world, is seen in the behaviour of both after injuries from external causes. Crystals, like organic bodies, have the power of restoring lost parts more or less perfectly. There, as well as here, the power which formed the bodies continues to operate in them when formed, independent of the substance, the loss of which they survive and replace. If a mutilated crystal be placed in a liquid, from which it can attract matter of the same nature, it grows indeed as a whole, but especially and most rapidly on the side where it was mutilated; so that, above all things, the regular form is restored, just as a mutilated animal, out of its food, first of all replaces, as far as typical laws allow, the lost parts." There is an amount of truth in this statement; yet the analogy is by no means so absolute as seems to be here implied.[1] In organisation we shall find, that

[1] Liebig says: "There is no analogy between the growth of a crystal and the formation of an organism. The form of membrane is not determined by the physical form of the atoms of gelatine, as occurs in a crystal of alum, which consists of an aggregate of particles of alum, each of which has a form like that of the large crystal. A cell is complete in itself, and not

the principle of development is brought much into play. This principle does not seem so requisite in crystallisation. Ordinarily, there is little scope for its employment, because in crystallisation there is but, first, a formation of atoms into molecules; and, second, a formation of molecules into masses,—all of which may be effected on the principle of affinity alone; for the experiments of Faraday and others sufficiently prove, that all matter has certain polar conditions, having powers of mutual attraction and repulsion; and hence it follows, of necessity, that a certain inherent tendency to a particular molecular arrangement, must produce certain peculiarity of form.

an aggregate of smaller cells. There is not for crystals, as there is for cells, a limit to their growth. Their growth is not, like that of organisms, effected by a cause acting internally and externally, but by an attraction of surface. At all points of the surface this force acts. The particles under the surface take no share in the growth: they may be removed without taking from the surface its power of growth. The new surfaces formed by the mutilation of a crystal, exert no stronger attraction on the particles of the surrounding medium, than the other surfaces; they do not grow more than the others. By breaking off the angles of an octahedron, we obtain a cubic surface of the crystal, bounded by four converging surfaces of the octahedron. In the crystallising liquid, the crystal grows in three dimensions; and, in consequence of the lengthening and convergence of the surfaces, the angle is restored; and this occurs, even when the cubic face is covered with varnish. If from a cube of alum one side is broken off, it increases, in the mother-liquid, in no greater proportion on the mutilated side than on the others: the original form is not restored, because the attraction of one part of one face of the cube is not greater than that of any equal surface on any one of the remaining sides. A crystal growing, and suspended in a saturated solution, always increases principally in one direction only, and that is on the side looking towards the bottom of the vessel, which is naturally always surrounded by the most dense and most highly saturated solution. There are cases where, in consequence of a difference of temperature above and below, a crystal grows on the lower part, while the upper part is dissolved, so as to lose its form." All this is, no doubt, true: yet there seems to be so far an analogy betwixt the cell and the molecule, that the former may be regarded as a composition of atoms, structurally built up, with inherent forms; while the molecule is a composition of atoms, without any inherent form. The former, therefore, is an element susceptible of development, in order to the manifestation of its inherent forms; and as such, therefore, admits of such an aggregation of cells, in each department of minor forms, as shall be sufficient for its proportional growth, as compared with the other organs, and with the whole, as a general composition of forms; while the latter, having no inherent forms to develop, admits simply of a *repetition* of itself as the ground-form.

There are cases, however, in which the law of development is illustrated, even in crystallisation. Examples of this kind have reference to certain crystalline forms, as modified by the magnetic power of the earth, and also of certain forms, known as pseudomorphism—a phenomenon presenting the substitution of the constituent atoms of one body, in the precise form of another, whose original shape is retained. We explain this by simply pointing to the magnetic influence of the type, overcoming the inherent affinity, whereby the molecules, if undisturbed, would choose their own molecular arrangement. But the illustrations of this influence are to be found chiefly in the department of Organisation.

Sect. II.—Organisation.

In Crystallisation there is, generally speaking, in the mass, but a certain conglomeration of molecules, according to some definite juxtaposition, without any new development, further than what some change in said juxtaposition might present: in Organisation the formative law is far more complex. Organisation has not only a typical form, as indeed crystallisation has; but the main point of distinction lies in this: that the typical forms in crystallisation are each constructed according to an absolute law of atomic combination, whereby each molecule of atoms is formed the precise counterpart of its fellow; while, in organisation, each cell is not only formed in dependence on, and by contiguity with, a typical cell, but according to the particular growth and development which the typical cell itself comes gradually to undergo.

In organisation three inquiries have to be instituted: *First*, In what way is a transformation effected from the purely physical to the physiological,—that is, from the inorganic department to the organic,—that is, from the merely molecular to a cellular constitution? *Secondly*, Having a typical cell, in what way are cells reproduced and multiplied? *Thirdly*, What are we to understand by the growth and development of cells?

In answering the first question, let us see what are the facts. In the action of the living plant, we find that the crude matter which, as inorganised substance, enters by the roots, is carried onward to the leaves, where it undergoes a preparation, by the influences to which it is there exposed, and so becomes "organisable plasma:" it becomes assimilated to the plant in respect of the

quality of its substance; and it is then prepared for assimilation in respect of its cellular form. Assimilation, in respect of quality, is a purely chemical process. First of all, the plant draws to itself those ingredients only which are adapted to its constitution; and next, whatever is superfluous, on the one hand, is removed, or deficient, on the other hand, is received, through the functions of the leaves—in which process two changes are effected. First of all, the juice is assimilated to the quality of the plant; and, secondly, it becomes *amorphous:* it loses the peculiar molecular form which ordinarily pertains to inorganised substance. This must be ascribed to the counteractive agency to which, in its passage from the roots to the leaves, it has been subjected. As amorphous substance of the quality of the plant, it becomes peculiarly susceptible of the configuration of the cellular structure of the leaves; and, passing downwards, as the gummy sap which constitutes the cambium-layer betwixt the bark and the woody portion of the stem, undergoes that transformation thus described by Carpenter:—"The wood generates, in contact with its last-formed layer, a new cylinder of wood; whilst the bark produces, in contact with its last-formed layer, a new cylinder of bark: the woody cylinder being characterised by the predominance of ligneous fibrous ducts, and the corticle by the predominance of cellular tissue." To what are we to ascribe this formative process? To *assimilation* after a type—that assimilation whereby the *directive force* of a type, in its magnetic influence upon the free motion of the amorphous atoms, impresses its own cellular form thereon.

The self-same law prevails, in its application to the animal economy. It is well known that, chemically, no distinction can be traced betwixt Albumen and Fibrin: the distinction exists only as between Physics and Physiology: *i.e.*, the distinction exists merely structurally. Albumen (the substance which is convertible into all the tissues) presents no traces of organisation, being a mere aggregation of amorphous particles; but the coagulum of fibrin exhibits a definite organic structure, resembling that of tissues. Now, the question is, How is this structural character impressed? We answer, by the magnetic action of the living tissues upon the albumen. The first products of digestion are mere albumen: that elaborated substance which constitutes organisable matter. The production of organisation is

simply that assimilation of form which arises from the contact or contiguity of the cellular type. "The act of nutrition (says Dr Carpenter) seems to consist in the conversion of this material (albumen) into new cells, fibres, etc., *in connection with those previously formed.*" Again he says: "The production of a fibrous tissue are the result of *vital* properties, rather than of physical or chemical agencies; because no substance is known to perform any such actions without having been subjected to the influence of a living body. This production of an organisable from an inorganisable substance, possessing none but chemical properties, may be termed Assimilation, and it may be conceived, as we have seen, to consist of a new arrangement of the particles of the substance thus changed, analogous to that which occurs when one isomeric product is converted into another by some ordinary chemical agency."[1] While we cannot agree in the distinction here expressed, as between chemical and physical, and chemical and vital, in as far as chemical is the *generic*, which comprehends the *particulars*, viz., the physical and physiological, or vital; what we are desirous to point to, is the fact, that vital or physiological structure is, in its formation, dependent on "the influence of the living body," that is, as we hold, on the magnetic, or directive, or formative influence, which impresses new cells, fibres, etc., upon the prepared substance rendered susceptible of receiving the same.

It may safely be laid down as a maxim to which there is no exception, that there can be no forms initiated in the process of organisation, without the presence and consequent influence of some type; and that the characteristic form of the type only can be reproduced. Practically, all pretended productions of organisation, without a parent form as the type thereof, are therefore ungrounded assumptions; and, indeed, we might *a priori* affirm the impossibility of supposing the case of structure, starting into being as a parentless, and absolutely *de novo* existence.

Holding, then, that in *all* cases there must needs be the existence of an exemplar as the type, out of which the structural forms in reproduction flow, we regard the natural law, whereby the multiplication of copies is ensured, as anything but incomprehensible. All that is required seems to be this: First, the proper elaboration or preparation of a quality of substance, whose con-

[1] See General and Comparative Physiology, §§ 41 and 42.

dition renders it susceptible of formative influence; and, second, the contact or contiguity of a typical form, having a free representation in said substance. Our averment is, that *in all cases, when there is a free representation of the typical form in the prepared substance, the typical form will be impressed thereon, either transiently or permanently, according to its chemical constitution.* The transmission of form we regard as perfectly analogous to magnetic influence. It is neither more nor less than the transmission of a directive polarisation into a passive medium—a medium simply receptive of the configuration presented in, and represented from, the type subsisting in contiguity therewith.

The illustrations of this law are literally endless. The whole doctrine of Embryology is explicable thereon. As it is now a well ascertained fact, that organisation, whether in the vegetable or animal kingdom, has its commencement in the simple *cell*, so the first step in the process of generation is simply a successive repetition of cells, all similar to the primitive type, and, therefore, similar to one another. But while there is a multiplication of cells in this way, after the form and character of the primary germ or parent cell, there begins also to take place what may be called the *genetic development* of the parent cell, under which it is gradually unfolded, according to its inherent constitution and character, into a manifestation of its complexity; and, therefore, equally propagating these in the nutritious matter, as component parts of its structure. The *yolk*, for example, is at first of a purely uniform character; but so soon as hatching commences it becomes diversified, and undergoes what is called *segmentation;* and this it does *pari passu* with the multiplication of embryo-cells. Again, let us take the case of *epidermic and epithelial* layers. It is well known that, in various parts of the body, there is a membrane of extreme delicacy, which has been termed "basement-membrane," which seems to exist on all the free surfaces of the body. It constitutes the outer layer of the true skin, lying between it and the epidermis or scarf skin. It lines all the cavities formed by mucous membranes, and is prolonged into all the ducts, and follicles, and tubuli of glands, as also the blood-vessels and lymphatics, and is the innermost of the serous and synovial membranes. Now, what is the nature of this basement-membrane? It is not homogeneous, but is characterised by a number of minute granules, as a series of distinct spots arranged over it.

One chief office of this membrane seems to be *the production of cells*. As regards the epidermis, for instance, when it is injured by abrasion, or wasted by the irritating influences of exposure, there is a speedy and complete replacement. How can this formative operation be accounted for? Rationally enough, on the ground that the plasma, wherewith the injured or wasted part is filled up, receives the cellular structure of the basement-membrane, with which it is in contact. In cases wherein the epidermis is entirely exuviated, as happens in scarlatina and other diseases, we find a new cuticle preformed beneath that which is shed. A remarkable example of this annually occurs in the cast skin or slough of the snake, which has every part of the epidermis periodically thrown off. Even in ordinary life, the epidermis is known to be continually wearing off at the external surface, like the bark of a tree, and to be proportionally renewed; so that the newest and deepest layers gradually become the oldest and most superficial, and are at last thrown off by slow desquamation. Now, as the epidermis is known to consist of a series of layers of cells, what can we say in explanation of their origin, but, in the words of Dr Carpenter, whose views we have above adopted, that "each cell of the epidermis is developed from the nucleus on the surface of the basement-membrane, which consists of flattened polygonal cells with granular nuclei?" And to what causality can we ascribe said operation, but to the dynamic agency of magnetic influence, acting upon a passive or susceptible medium?

The constant origination of *epithelial cells* is to be accounted for in precisely the same manner. The epithelium has been described as "a delicate cuticle, covering all the free internal surfaces of the body." The epithelial cells, being always in contact with fluids, do not dry up like those of the epidermis. While they are in constant process of exuviation, they are in as constant process of renewal; and the explanation given of said renewal is, that "they are developed in the very substance of the basement-membrane, from germs contained therein." And while physiologists have submitted, that this, after all, is but the removal of the mystery of formation one stage further back, we submit whether it is not fairly accounted for, just as the face in a mirror answering to the face before it, is accounted for, viz., by the law of magnetic polarisation.

We might refer to the *reparation* of injuries as a further exem-

plification of the same law. In the *hydra*, if it be cut up into a small number of portions, each of these will develop itself into a complete polype. The *sea-anemone* seems to have the same power. In the *star-fish*, and among the compound *polypifera*, the capacity of regenerating lost parts is great. We might refer, for examples of the operation of this law under its various features, to *animalcules*,—to many of the lower *articulata* and *annelida*,—to *crustacea* and spiders. But, indeed, in all creatures it operates, though in mammalia generally it is more confined; and the principle seems to be, that *each tissue is capable of regenerating its own kind.* In the reparation of injuries, and particularly in the supply of lost parts, the process consists chiefly in *repetition:* a process somewhat analogous to the extension of the roots or stem of a plant.

The same law of assimilation might be illustrated by a reference to what have been termed *heterologous* growths, that is, cancerous or fungous structures, which are a mass of differently constituted cells, developing themselves, like fungi, with great rapidity. "These parasitic masses have a completely independent power of growth and reproduction: they can be propagated by inoculation, which may convey into the tissues of the animal operated on, the germs of the peculiar cells that constitute the morbid growth,—these soon developing themselves into a new mass." It is well known that, in cutting for cancer, there is a danger of its ultimate reappearance; and this from some germ that may be left unremoved, whose reproductive tendency, unless destroyed, seldom fails, in the long run, to manifest itself. And it is curious that the formative power should be exercised, not only in maintaining the original type of parasitic growths, but also in keeping up another acquired peculiarity, as, for example, in the perpetuation of a cicatrix, left after the healing of a wound. As Mr Paget has remarked, "the tissue of a cicatrix grows, and assimilates nutrient material, exactly as do its neighbouring healthy tissues; so that a scar which a child might have said to be as long as his own forefinger, will *still* be as long as his own forefinger when he becomes a man. And when the mode of nutrition in any part has been altered by disease, there is frequently an obstinate tendency to the perpetuation of the same alteration; or, if the healthy action be for a time restored, there is a peculiar tendency to the renewal of the morbid process in the part; and this is stronger the more frequently it recurs, till at last

it becomes inveterately established" (Carpenter, *Comp. Phy.*, chap. 18).

Such are some of the modes under which assimilation operates. It is, as we have said, neither more nor less than the transmission, into a *free* medium, of the polarisation, and consequently of the formative influence, engendered by the presence of a typical structure. It is displayed on the surface of the mirror, which reflects the countenance; and on the photographic plate, which retains the image. It is displayed by all the processes of the daguerreotype and electrotype: there being but one general law for the *reproduction* of structure—a law invariably operating wherever there is *free* scope for the representation of magnetic agency. If *free* operation is wanting—if affinity is wanting in the organisable substance—if due contiguity or contact is wanting betwixt the type and the impressible matter—if there is aught to disturb the freedom of representation—if aught is wanting in the relationship which goes to constitute causality, in the exercise of a true *nisus formativus*, then will the process of reproduction fail in achieving its end.

In concluding this section, we would briefly observe, that while the whole economy of life, in respect of its multiplication and maintenance, can be accounted for upon the principles of natural law, the economy of life, in respect of its *primary introduction* or creation, cannot be so explained. There is no natural law whatever, explanatory of the introduction of absolutely *new* conditions and forms. The law of nature goes to account for the operation of affinity from already established conditions only, and for the operation of assimilation from already established forms only; but the law of nature has nothing to do with the primary introduction of conditions and forms. For this we must have recourse to *mind*. It is mind, *rational mind alone*, that can create. Creation consists in the formation of a concept whose being, as such, had no previous existence. A concept is an invention, having its primary existence as a thought devised first of all in the mind; and, thereafter, and from the mind, set forth objectively in the world. This was the work of Divine Intelligence, in giving primordial birth to the *originals* of the living structures of the world. It was in the gradual accomplishment of this work that a law of nature was established—that law whereby the order of creation is maintained and perpetuated.

BOOK III.

THE PHILOSOPHY OF METAPHYSICS:

BEING AN EXPOSITION OF THE PRINCIPLES OF PSYCHOLOGY.

THE term Metaphysics has been generally applied to that which is abstract, intangible, transcendental; and hence is regarded as bearing upon certain mental speculations, the absolute proof of which it is difficult, if not impossible, to obtain. If this meaning holds good with reference to all human investigations into the science of mind, then we are but adding to the heap of confusion and contradiction which has been already presented on this subject. If, however, there is such a thing as the science of mind: if there is the possibility of arriving at certainty in discussing mental phenomena, and the possibility of adequately accounting for them: if we can establish a science of causality for all mental states, with as much assurance as for any material states, then our efforts, instead of being characterised as vain and fruitless, must conduct to the noblest and most profitable results.

The object of our contemplation, in former chapters, has been something we could see or touch—something affecting the outward sense: in short, the material world, and its laws of natural operation, and which is presented to us under the two connected departments of Physics and Physiology. The object of our contemplation, under the head of Metaphysics, is something we can neither see, nor touch, nor taste, nor in any shape ascertain by the immediate use of external sense: it is, in short, the world of mind, and its laws of natural operation, which we shall have to consider under two general heads—the Intellectual and the Emotional. Both branches of study are equally objects of *thought*—material phenomena, not less so than mental. The former could be examined, only so far as the representation of its characteristics are *acquired by* the intellect: the latter, in the same way, can be similarly searched into, only so far as the

characteristics of intellect are *made known* to itself. Whatever our discussions or speculations may be, whether on matter or on mind, all are equally the Forms of Consciousness. In approaching to this latter branch of study, unquestionably the most important, while as yet, we are sorry to say, the least appreciated, department of learning, we shall inquire first, *how we come to think at all?* that is, under what circumstances sensation arises, and consciousness is produced; that is, in what way Ideas are generated, and how these are laid up under the name of Knowledge? In the second place, we shall endeavour to ascertain *what are the special characteristics belonging to Ideas;* that is, how certain ideas are properly regarded as those of Perception, and others as those of Imagination, and others as those of Apprehension, and others as those of Conception, and others as those of Judgment. We shall thus dissect the intellectual structure of man. Thirdly, we shall inquire into the Emotional department, and seek to ascertain *the causes which go to the formation of Will,* and which give to will its power of expression,—that is, *its Volition.* In this inquiry, we shall see what really constitutes human freedom. These separate heads will constitute so many chapters.

CHAPTER I.

CONSCIOUSNESS.

In answering the question, *how come we to think?* there are two phenomena to be accounted for, viz., *Sensation* and *Consciousness,* which, though closely connected as phenomena of mind, do yet subsist under different categories of operation. To come fairly at these, let us trace our way from ground unmistakeably ascertained. We have seen that the nerves of the animal economy are precisely analogous to electric conductors in the physical world; and that, as a general rule, their office is to convey impressions, made on what may be called the terminals without, to their corresponding terminals within, for the purpose of being lodged in one common sensorium, as the focus of nervous transmission. We have seen that the variety of nerve-lines in the

living body, or the external organs which form a door of admission to these, are regarded as the five senses; and properly enough—not that there is any sensation at all in these, but because they are the direct media, or channels of communication, betwixt the external world and that substance termed Intellect, which is unquestionably lodged within, and attached to a certain part of the brain. Speaking of the nerves conducting to the brain, Dr Carpenter says: "Our assurance, that it is through their instrumentality that the mind is affected by external impressions, rests upon the fact, that, if an interruption exist in the transmission, these impressions are not felt." Again he says: "If it were possible for a human being to come into the world with a brain perfectly prepared to be the instrument of psychical operations, but with all the inlets to sensation closed, we have every reason to believe that the mind would remain dormant, like a seed buried deep in the earth." We would transpose the metaphor of our author, and say, that if no seed is sown, no plant can appear: if no impressions are made, no forms can be found. The mind would be dormant, "with all the inlets to sensation closed," just as a musical instrument is dormant which is not played upon. Intellect, as a substance *capable* of manifesting consciousness, would exist; but, for want of those impressions whereon it is dependent for its activity, it must be perfectly quiescent: there could be no consciousness.

SECT. I.—THE MATERIALISTIC AND SPIRITUALISTIC VIEWS.

The question, therefore, now arises: Under what circumstances is consciousness excited? No very feasible views, so far as we have discovered, have yet been given forth on this important subject. It would seem, that in attempts to do this, most parties have felt constrained to take a side, either purely materialistic, or as purely spiritualistic. Both, we regard as encumbered with difficulties, and equally opposed to facts of the most familiar occurrence. One party will tell us, that "sensibility is the special property of nervous tissue, just as contractility is the special property of muscular tissue;"[1] and that mental states are neither more nor less than a process of material change in, and operation of, the brain; and that there is no necessity for supposing the existence of an immaterial substance, under the

[1] See Comte's Philosophy of the Sciences, by G. H. Lewes, sec. 19.

name of intellect or soul. We are utterly opposed to this view. It is demonstrable that sensibility, inferring sensation, is not "the special property of nervous tissue, as contractility is of muscular tissue." We have seen that the nervous tissue of an animal recently killed, may be operated on; and through that operation, contractility, as "the special property of muscular tissue," will be exerted. But who will say that "sensibility" is aroused by the operation of the nervous tissue? If sensation were a property, much more "the special property," of the nerves, how could surgical operations be performed painlessly upon mesmerised subjects, and upon subjects under the anæsthetic agency of chloroform? We can tell what the characteristic or special property of nervous tissue is. As molecular contractility is the characteristic of muscular tissue, under impressions, as indicative of the change in condition, and consequent change in affinity, which thereby takes place in its particles; so *molecular polarity* is the characteristic of nervous tissue, and by this polarity is effected the transmission of the representation, according as the molecular equilibrium is disturbed by an impression. We eschew, therefore, the doctrine that mere material substance, *as such*, can be manifestive of any of the phenomena of mind.

There are others, again, taking their stand on the ground that mind is the phenomenon of a distinctive immaterial existence, hold that the soul, while somehow connected with the body, is not at all dependent thereupon for its operation, but is endowed with the prerogative of an independent self-consciousness, and with the power of self-government, without any relation or respect to the operations of matter, with which it may happen to stand connected. This view, we believe, conducts equally to error; at least, if respect is had to the operations of the soul in its *present* state of existence, as linked with the body. While we repudiate the purely materialistic scheme, which ignores the fact of a distinctive quality of substance, known by the name of intellect, or soul-substance, or confounds two different classes of substance, viz., that which we call *matter*, whose properties are manifested to, and cognisable by, consciousness, through the external senses; and that which we call *mind*, whose properties are manifested simply under consciousness: yet, on the other hand, the purely spiritualistic scheme ignores facts which may not be set aside. In supposing the mind as operating independent of

the body, the pure spiritualist must necessarily deny that it is ever disordered by corporeal conditions, contrary to the plainest and most abundant evidence. There is no man but finds his mind affected by a peculiar state of his body. What are the delirious ravings of intoxication, or of fever, or the perverted reasoning of the lunatic, but the affections of mind as produced by certain abnormal states of the body? Yet they are the evidences of mental actions, as truly as the sayings and doings of the sane. "No physiologist (says Dr Carpenter) could deny, in the face of the crowd of facts which force themselves on his attention, that all mental phenomena are inextricably linked with vital changes in the nervous system; and that the regular performance of the latter is essential to the normal sequence of the former." All our physiologists employ similar language, and hold it as an unquestionable axiom, that "the brain is the organ or medium through which the operations of mind are conducted."

SECT. II.—THE SCHEME OF THE AUTHOR PROPOUNDED.

We beg to submit our own view on this intensely interesting and most profitable study. There can be no doubt that the *intellectual* has a distinctive existence, as compared with the exclusively *material*. Here is the point at which we meet the materialist, so called. We ask, What are the recognised and demonstrated phenomena of *matter?* They are phenomena which are cognisable by the use of the external senses. We would lay it down as a maxim, that *substance, wholly incognisable to any of the external senses, cannot properly be regarded as matter.* But it may be asked: Is not matter traceable to a fundamental substance, which lies entirely beyond the range of external sense? Quite true; and thus it is proved, that matter is grounded, not upon matter, as if it were itself an absolutely primary substance, but upon Spirit.

But what is Spirit; and what is that substance which is properly regarded as Spirit, when contradistinguished from matter? Spirit, in its radical and primary signification, implies mere potentiality, or the capacity of momentum. Now, let it be observed, there can be no potentiality abstractly, or apart from the substance of which it is the inherent attribute; so, therefore, the term spirit has come to denote *the substance itself, of which po-*

tentiality is the inseparable and inalienable prerogative. And it is properly called spirit, generically, when the substance is unconditioned, and therefore without any law of operation; but subject to have its inherent capacity of momentum carried into any particular momentum or force, according to the kind of conditions which may happen to be imposed. We would have it to be noted, as regards substance, in its unconditioned or primordial state, that the dynamic property of potentiality, essential to the very nature of substance, must of necessity be quiescent, or inoperative, or dormant; and for the very reason, that *there can be no force without condition.* Force is the actual expression of potentiality, under some law or another; and it is condition alone which prescribes this expression, and the relationship of certain conditions, which prescribes the law of its utterance.

Here let it be noted, that we regard the unconditioned, out of which *matter* is constituted, and the unconditioned, out of which *mind* is constituted, as primordially one and the same:—the self-same absolute:—the self-same foundation in the case of both. As regards that primitive substance which forms the foundation of matter, we describe it as simply that positive quality out of which *condition and form merely* can be developed. Form we regard as its phenomenal or ultimate capacity of representation. Hence, we are able to introduce a definition of matter, which, so far as we are aware, has not yet been attempted with success; and to say, it is *a combination of conditions whose ultimate development is form, and whose potentiality is expressed as insentient force.*

Such is our view of matter. But while it is absolutely essential to have a definition of matter before we can speak of *materialism,* on the one hand; it is essential to have a definition of mind also, before we can speak of *intellectualism,* on the other hand. Till we have this, we cannot be prepared to offer any logical reasons for the doctrines we cherish in respect of these distinctions. We ask, therefore, in the next place, what are the recognised and demonstrable phenomena of *mind?* As we have described matter to be an economy of positive conditions engrafted upon the unconditioned, and manifesting *form only* as its phenomenon or ultimate characteristic; we would describe mind to be also an economy of conditions engrafted upon the unconditioned;

but with this difference, that said condition manifests *significancy*, or *conscious understanding*, as its phenomenon or ultimate characteristic. Mental condition is thus clearly distinguished from material condition; for it is by what may be termed the extrinsic or manifestive characteristics that either can be described: the one, as *an economy of insentient forms;* the other, as *an economy of conscious meaning*,—that is, of cognition,—that is, of knowledge. As the qualitative character of that positive impression of the unconditioned, out of which *matter* is constructed, can, at the utmost, produce only varieties of form, along with its varieties of condition, and all of these absolutely insentient; so the qualitative character of that positive impression of the unconditioned, out of which *mind* is constructed, displays its conditions under what is properly termed Cognitions. The primitive substance, therefore, which forms the foundation of mind, and which constitutes what we would properly call soul-substance, we describe as that positive quality, out of which the conditions of intelligences are variously developed. Intelligence, and the operations of intelligence, are the phenomenal aspects of soul-substance, just as mere form, and the operation of its conditions, are the phenomenal aspects of matter.

That soul-substance, or intellect, when supplied with knowledge, is destitute of form, is not to be supposed. For, when the question of intelligence comes to be fairly considered, form is one of the preliminary conditions essential to the phenomenon of intelligence. We hold, that *there can be no such thing as a pure intellectualism, absolutely insulated and separated from an economy of form.* We have said that conditioned intellect—that is, intelligence—is itself an economy of signification or of understanding—an economy of cognition or of knowledge. But the question is: Knowledge of what? We answer, *of the conditions and forms of the world.* There is no other knowledge derivable to intellect. It is through the knowledge of the material conditions that we are made capable of attaining to a higher knowledge, even that which concerns the being and attributes of God. Intellect is, of necessity, first of all cognisant of material states: it is, first of all, conscious of the conditions of an economy of form. There must be a *structure of form* before there can be a *structure of cognition.* The light of intellect, when once replenished, is but the mental reflex of the forms impressed on it, from material states indepen-

dently subsisting. Before there can be a mental condition of φῶς, there must needs be a preliminary formal condition of ζωή; the former, when realised, being but the subjective significancy of the states of the latter, objectively subsisting. The mental personality is dependent for its formation on the vital personality.

We believe that soul-substance, as such, and unconditioned with form, is entirely without intelligence; and that it is only when brought into operation through the action of the vital economy with which it is linked, that it takes on, not of course, the very conditions and forms of matter, but the exact representations of these, which, being impressed on intellect, are consequently cognised or understood by intellect. We say that intellect, when so impressed, is converted into intelligence. That which, in itself and by itself, had no proper personality, as being simply intellectual substance, otherwise void and without form, being unconditioned, —that which, by itself, had no consciousness, and therefore no mind, as having no principle of action implanted, and therefore no operation begotten,—that which in respect of intelligence, when reckoned by itself, must be regarded as *zero* only, becomes, by its junction with the sensorium of the brain, and its receptivity of the impressions carried thereto, equipped with those endowments which constitute its selfhood. As being primarily in a state of emptiness (κένωμα), a building up (πλήρωσις) commences, so soon as the child is born into the world. The sensorium, receiving impressions as they are made upon the vital system of the body, carries the same into the intellectual ground, which thus becomes conscious of what it receives. The representations made from the world through the vital economy, being at first emphatically those of the bodily conditions, constitute the conditions of the soul,—that is, its knowledge; and the entire knowledge which the soul receives during its worldly experience, forms its equipment (πλήρωμα), so far as the same may happen to extend; while the character of the soul is invariably described by the character of the knowledge of which it has been a recipient.

What, then, we hold is this, that while there may be a development of the material apart from, and irrespective of, the intellectual,—that is, a manifestation of *an economy of form* without embracing *an economy of intelligence;* there could be no manifestation of the intellectual as intelligence, apart from, and irrespective of, the material, as affording the very elements of in-

telligence. We do not say that the intellectual, when once formed into intelligence, might not subsist, and operate too, when the material has been withdrawn; but we do say, that, in *the actual formation of intelligence, there is the absolute necessity of the material, as the ground-work or economy of form, out of which intellect derives its constitution.* It is not easy precisely and adequately to describe the characteristics belonging to intellectual substance; and yet, if we obtain a correct notion of that substance, out of which an economy of form only can be realised, it is not difficult to arrive at a sufficiently definite idea of that substance, out of which an economy of intelligence is realised. We would say, that the latter, in a sense, comprehends what the former contains, with the accession simply of the phenomenal quality of intellectualism. In the one case, form is the ultimatum which condition presents: form is, therefore, utterly insentient and unconscious. In the other case, condition cannot take form without also taking on the consciousness thereof. In short, the quality of intellectualism necessarily shows consciousness as its inseparable characteristic, when conditioned forms, whatever these may be, happen to be impressed thereupon.

In this way we can readily comprehend, first, how it happens, that there can exist an union betwixt the substance which is properly the ground of the material, and the substance which is properly the ground of the intellectual; and, secondly, how it happens, that the moment an impression, made upon the material, is carried to the point of junction betwixt it and the intellectual, *sensation* must be immediately excited; and, in connection therewith, consciousness, as the very characteristic of the force with which impressions find their way into the intellectual ground. The intellectual part, or the soul, is thus built up into intelligence in necessary connection with, and in direct dependence on, the material; whose particular representations, when transmitted to intellect, go to constitute the furniture of intellect, and to convert it into an intelligence, or personality having an economy of knowledge.

Granting, then, that there is at the *sensorium*, as being the focus of all nervous transmission in the animal system, the superaccession of soul-substance, or intellect, whose property is to represent forms under the phenomenon of cognitions, what must be the result, so soon as the nervous system comes into operation?

Why, of course, and of necessity, a consciousness of the impressions transmitted. The doctrine of the correlation of forces, now so well attested by Dr Carpenter, Professor Grove, and others, is here well illustrated. We know, for example, that, in the inorganic, mere electric force will develop itself as heat in one body, and as light in another; and all by reason of the fundamental differences in quality: we know, moreover, that in the organic, nerve force in the nerve, is developed as contractile force in the muscles, and that this again produces motion of the limbs; and the correlation takes place in virtue of a junction of the two substances, whereby the one is receptive of the force prevailing in the other. Precisely applicable is the illustration arising from the exercise of mental force. As contraction is the characteristic manifested by that quality of substance termed muscular, so consciousness is the characteristic manifested by that quality of substance termed intellectual; and thus the correlation manifested betwixt nerve force and mind force is complete.

We are now in a position to define what Sensation is, and to say how it is produced. Sensation takes place on what may be termed the common ground of the material and the intellectual, that is, on the point of junction between these substances. Sensation belongs partly to the material and partly to the intellectual; and were there no junction of these, there could be no sensation realised. It is invariably, and of necessity, aroused on the boundary-path of each—a path which is the exclusive prerogative of neither, but, as being the point of their amalgamation, is therefore common to both. It is obvious, that sensation, in the order of nature, must precede consciousness; though, in practical manifestation, from the rapidity with which force operates, there is no interval observable betwixt them. But, as the point of junction where the material and the intellectual are blended must be crossed, ere a passage can be effected from the territory of the former into that of the latter, so in that passage an impression must, in the order of nature, arouse sensation preliminary to that of consciousness. Sensation is simply the characteristic of force, as displayed in that particular quality of substance, which is, in fact, a composition arising from the union of the material and the intellectual, just as consciousness is the characteristic of force in the purely intellectual alone.

And here, in order to the strict definition of terms, let it be

noted, that *there can be no Force without its Form.* The form, as containing in it the property of condition, is, properly, the *thing* transmitted; the transmission is the force, while sensation is the characteristic of the force in this particular ground. If, then, there can be no force without a form—if there can be no transmission without something transmitted, it is obvious enough there can be no sensation without a *form;* and, of course, the same must be said of consciousness. There is a term applicable to form in each case. In the former case, it is termed *Idea:* in the latter case, it is termed *Cognition. There can be no Sensation as force, without its Idea as form: there can be no Consciousness as force, without its Cognition as form.*

As sensation is the characteristic attending force, in that composition which constitutes the blending of soul-substance with the cerebral, as the material: this common ground, which constitutes the point of union betwixt the material and the intellectual, and which necessarily has a direct relation to both, and partakes necessarily of each, may be termed *Idea-ground,* or *Sensorial ground,* or platform of ideas. All the transactions of mind must take place on this ground, because here only it is that ideas are realised. The form which constitutes idea on this ground, constitutes cognition, when carried to the pure soul-substance; just as cognition constitutes knowledge, when laid up or deposited therein. Knowledge is the furniture of the soul. As, without cognition, there can be no knowledge; so, without knowledge, the soul is empty: it is unconditioned, and therefore without personality. It is knowledge, as deposited in the soul-substance, that constitutes the soul to be a *Me.* Were all knowledge entirely obliterated, the intellectual or conscious personality would be entirely destroyed. The Ego may, therefore, be defined to be soul-substance furnished with knowledge,—that is, with cognitions,—that is, with ideas,—that is, with the forms embodying the conditions of the world. Ideas, as such, are properly objective to the Ego: when received by the Ego, they are subjective cognitions: when laid up in the Ego, they are knowledge. There is a precise correlation betwixt knowledge and cognitions, betwixt cognitions and ideas, betwixt ideas and impressions, betwixt impressions and the forms of the external world. The external world hath its own independently conditioned forms belonging to itself, as bestowed thereupon by the Creator, and reflective of the righteousness of

the Creator. Said conditioned forms are made transmissible by the laws of affinity and polarity, already described. The impressions of them are carried to the external senses of the living body, and thence, by the nerves, conveyed to the sensorium, and thence to intellect.

We thus explain how consciousness arises; and, generally, how the mind is *charged* with ideas in connection with the external world: these come also to be *discharged* from the mind. But when we say discharged, the Ego is not thereby emptied of its forms, any more than the world, in conveying its impressions, loses the forms essentially pertaining to it. In discharging them, certain nerves fulfil what is called the will of the mind, by transmitting impressions from the Ego; just as, in charging or supplying the mind with ideas, other nerves are similarly instrumental in transmitting the impressions of things in the world *to* the Ego. We shall come now to consider the Philosophy of Intelligence on the one hand, and the Philosophy of Will on the other, in the two chapters which immediately follow. We would merely notice, in conclusion, that having discussed the Philosophy of Consciousness, and pointed out in what manner we come to *think*, this chapter supplies all that can be required to complete the argument in proof of an external world. Said proof, as we have offered it in the Introduction, is indeed complete in itself; but as, in connection therewith, we might fairly be required to show in what way the influences of the external world are exerted upon intellect, so we have here endeavoured to fulfil this requirement.

CHAPTER II.

INTELLIGENCE.

It has been observed, that the cerebral apparatus is the physiological organ, or instrument of Intellectualism. This, in fact, is usually admitted; though in what precise way its office is discharged, seems to have been, as yet, undetermined. We have assigned to it the general function of receiving and conveying

physical impressions to intellect; and we shall now further find, to its several departments belong the faculties of analysing, and combining, and retaining impressions, all for the use of intellect. Let it be remembered, that intellect, in its reception of impressions, exercises simply understanding or cognition; and, as cognitions of various classes are represented in intellect, the point which we have to ascertain in this chapter is, *Under what circumstances are special characteristics attachable to ideas?*

We have seen that the terms Idea and Cognition are strictly correlative: the one precisely corresponds to the other; the difference being, that the one is the form in that ground wherein sensation is effected; the other is said form in that ground wherein consciousness takes place. Whatever peculiarity, therefore, exists in respect of Ideas, exists also in respect of Cognitions. The question then is, How do ideas come to be differently characterised, as those of Perception, those of Imagination, those of Apprehension, those of Conception, and those of Judgment? We shall find that there are but two *general* departments of the understanding, viz., those of Perception and Imagination; and that those of Apprehension, and Conception, and Judgment, are subsidiary departments, necessarily confined to either the one or the other of these two.

Sect. I.—Perception.

We shall begin with *Perception.* We hold this to be the fundamental faculty of mind—that faculty without which no other could have any operation whatever. We describe perception to be *intellect's direct reception of external things.* It may be objected that this is not a philosophical definition, in as far as intellect does not, and cannot, literally, receive external things. We therefore define perception to be *intellect's cognition of the ideas,* i.e., *of the impressions or representations of external things, as they are immediately brought before it by means of the external senses.* The external senses are indispensable organs for the exercise of perception. We can understand how colours are carried to the eye; and how sounds are conveyed to the ear; and also how the senses of touch, and taste, and smell, are severally affected. If therefore it be noted as a fact, which seems to have been sufficiently ascertained, that the nerves of the external senses are traced inwardly to a focal centre, viz., to the

medulla oblongata, an important part of the sensorium, it follows of necessity, that all intimations by means of the five external senses must be directly transmitted to that point. If it be further noted, that the very fact which constitutes a sensorial state, is the union or blending of soul-substance with the cerebral substance at that point, it also follows of necessity, that upon the entrance of any impression into the *medulla oblongata*, by means of any of the five channels referred to, there must instantly arise what we call sensation, as the characteristic expression of this peculiar composition—an expression indicative of intellect's interest in what emanates from the body, or through the medium of its instrumentality. And if it be further noted, that soul-substance, though thus in immediate union with the cerebral substance, hath a distinctive subsistence and character of its own; and that consciousness is the characteristic thereof under operation, it equally follows of necessity, that consciousness must arise in intellect whensoever impressions are received thereby. The question, then, as to the transmutation of impressions, as they arise in, and emanate from, the external world, and are transmitted through the media of the nerves of sensation, and ultimately discharged in the substance of the soul, becomes sufficiently plain. Every impression has some kind of *form* necessarily belonging to it, and which is conveyed by a *force* more or less intense; so that, wherever any form is presented, there must be a force, and wherever any force is manifested, there must be a form,—it being a rule, without exception, that *form and force are inseparable.* When an impression is conveyed to the sensorium, we have seen that the form becomes *idea*, and the force becomes *sensation.* Ideas may constantly vary in form, and the condition embodied therein: sensation can only vary in respect of intensity. In precise accordance with this, the idea or form, on entering the pure soul-substance, we have seen, is termed Cognition, and the sensation or force is termed Consciousness. Cognition and consciousness, as respectively representing form and force in intellect, are, as we have said, inseparable from one another.

Now, when the impression comes directly to intellect by the nerve of any of the external senses, the cognition is called *Perception*, and the consciousness is called *Attention.* Perception and attention are, therefore, inseparable from each other,—the one as

the form, the other as the force, whereby intellect is affected, in receiving the elements of the external world. Perception is the Ego's direct cognition of something external: attention is the Ego's conscious operation, under which this cognition is realised. If it be asked, under what circumstances is perception, with its accompanying attention, excited? we answer, by *observation*. Observation is simply *the application of the intellect, as Ego*, to the representations coming to it at the sensorium. If there is no observation, we find that perception and attention are wanting. And this explains to us why it frequently happens that many things may take place under our eyes or ears, of which, in the circumstances, we are not aware. The reason why we are not aware, is for want of observation. When the mind is deeply engaged in some special pursuit, intellect, for the time, is withdrawn from the usual channels of communication; and, though these channels may transmit the impressions made upon them, yet, for want of *the application of intellect* thereto—that is, for want of observation—no sensation and no consciousness of said impressions are aroused. We can thus expound the position of those in certain mesmeric states, in which intellect seems closed to aught save certain characteristic impressions, and is therefore the slave of these, for want of any counteractive conditions. Observation being given to certain conditions merely, to the exclusion of others, the soul has no free agency to operate otherwise than as these conditions require.

But, it may be asked, what becomes of impressions, as received in the exercise of perception? We answer, that physical impressions have their proper lodgment in a certain distinctive portion of the brain, and that the cognitions, which are of necessity the exact counterparts of these, are deposited in the soul-substance itself. Without the former arrangement, we could have no *memory*: without the latter, we could have no *recognition*. To this arrangement, whereby there is, so to speak, a double storing up—one pertaining to the material apparatus of the brain, and the other in the intellectual economy of the soul—we shall have occasion further to refer, in the sequel of this chapter. We may here state, that in laying up cognitions in intellect, the soul becomes stored with knowledge. Knowledge is simply cognitions become static in the soul. It is thereby that the soul is characterised: it is thereby that the soul has its peculiar spiritual

organisation, or intellectual personality, or conscious selfhood. Knowledge constitutes those conditions of the soul, without which it would be in a state of emptiness, and therefore in a state of nothingness, and therefore in a state of utter unconsciousness; but with these conditions impressed, it becomes the *I*, as containing in itself those elements which give it specialty, and without which it could have no operation whatever. In the newly born infant the intellectual *I* is not formed: the physiological *I* only exists; yet with this provision, that all the elements for the formation of the intellectual *I* are brought into contiguity. The world is the grand womb of nature, wherein this formation is effected; and a merciful, as well as bountiful Creator, hath arranged for its development into a high and elevated circle of being. It is by the exercise of the external senses, that the soul—which is regarded as primarily empty substance, without form, and therefore without knowledge, having nothing inherently its own, beyond the attributes pertaining to said substance—acquires a certain amount of mental furniture of some sort, whereby the foundation of an intellectual personality is laid, to which constant accessions are being daily realised in the course of experience. There is a personality as respects *physiological life*, before there is a personality as respects *mental life*: mind is realised upon the intellectual ground, through the preliminary existence and operation of life upon the physiological ground. And the intellect, of necessity, takes on that precise character of personality, which the conditions of the vital economy, on the one hand, as a carnal constitution, and the particular training, on the other hand, as stimulating, or counteracting, the influences of said constitution, impose. Intellect can be said to have *perception*, only when it becomes an Ego, or formed intellect. Till this is effected, there is but *sensation* merely; but when the conditions wherewith the multitude of sensations are accompanied, are combined, as so many ideas impressed upon the intellectual substance, there is then an Ego, which at first, however limited, is still an Ego exercising perception, and, by every fresh accession to the intellectual store, gradually increasing the intellectual building.

Sect. II.—Imagination.

From Perception, we proceed to the consideration of *Imagination*. As we define Perception to be the cognition of things in

the external world by means of the external senses, so we define Imagination to be *the cognition of things in the internal world by means of the internal senses.* Imagination is precisely to the internal world, what perception is to the external world; and its instrumentality is the internal senses, precisely as that of perception is the external senses.

The internal world! and the internal senses! What are these? The internal world is the storehouse of *impressions*, registered and treasured up in a portion of the cerebral apparatus during the course of our thinking. We have spoken of *cognitions*, as also laid up in the soul-substance, as so much knowledge acquired. This latter treasury does not constitute the internal world referred to; but the *impressions* which give rise to the cognitions of imagination, and which are separately lodged in their proper receptacle in the brain, as a storehouse of realised forms, alone receive this designation. There is necessity for this arrangement of stored-up representations, without which there could be no memory. Memory is the storehouse of impressions once realised. And its existence, as an actual arrangement, will become abundantly manifest, when it is considered, that in the *recurrence* of former thoughts to the mind, ideas do not spring or emanate from intellect, as such (for this would be an emanation *from* intellect *to* intellect, which is absurd), but come to intellect, from the cerebral repository, through the usual cerebral medium. It is a rule, to which there is no exception, that throughout the whole process of our thinking, ideas of necessity spring, as impressions, either from the external world of material forms, or from the internal world of material representations, as our past experience; and invariably come to intellect, through the medium of the cerebral nerves, conducting to the sensorial ganglia. When the idea is new, intellect is said to have *cognition* merely: when the idea is one formerly experienced, then intellect is said to have *recognition* thereof. The difference between cognition and recognition is this: that in the former case, intellect receives an idea which goes to increase its stock of knowledge; in the latter case, an idea merely which fits into a form already existing. In the former case, intellect cognises something before unacquired: in the latter case, intellect cognises something already pertaining to it, and is therefore said to have *re*cognition.

As regards the repository of impressions, which go to constitute

each man's inner world of experience, we are entirely of opinion, that the *grey* matter of the brain is adapted and employed for this purpose; the *white* matter thereof being fitted, as minute fibrils, or medullary nerves, for transmitting impressions. This view is strongly corroborated by the fact, that the vesicular or grey matter is connected with the two sensorial ganglia, termed the *Thalami Optici* and the *Corpora Striata*, by separate sets of the white or medullary fibres, losing themselves in the grey matter at one terminal, and blended with the sensorium at the other. If, by reason of softening of the brain, or other disease, either the grey matter should have its forms more or less effaced, then *memory* is proportionally weakened or destroyed; or, if the white matter, as the organs of transmission, should be rendered powerless, then also the power of *remembrance* is proportionally lost. The difference betwixt memory and remembrance is, that the former refers to the storing of impressions, the latter to the faculty of bringing impressions from the storehouse before intellect, as occasion serves.

In this way, then, we see not only what the *internal world* of our experience is, but also what the *internal senses* are. The internal senses stand to the internal world, just as the external senses stand to the external world. The external senses are the nerves of the eye, of the ear, of the touch, of the palate, and of the nostrils, through which are communicated to intellect the colours, sounds, tactile qualities, savours, and flavours of things in the world. *The internal senses are those cerebral nerves, by which are carried to intellect the impressions of things, as they are stored up in the receptacle of memory.* We have said, it is an ascertained fact in Physiology, that such cerebral nerves do exist, having one end terminating in said receptacle. And as regards the sensorium, while of the three sensorial ganglia ascertained, there can be no hesitation in regarding the *medulla oblongata* as the seat of perception, there can be as little doubt in thinking that the *thalami optici* and the *corpora striata* are the seat of processes, ranking under the category of Imagination. It must be confessed, that the discoveries of physiologists in this particular department of study, are as yet very limited; and, without any unnecessary speculation, we would hazard the conjecture, that while one of these (probably the *thalami optici*) is the seat of imagination, properly so called, the other (perhaps the *corpora*

striata) is the seat of judgment, as being, probably, the point at which a *comparison* of cognate ideas is effected.

And now as to an exposition of Imagination. Anything that we remember is an exercise of the imagination: anything also that we can conceive is the work of imagination. In short, *whatever idea is drawn from the storehouse wherein impressions are registered; or whatever idea arises by a combination of these, belongs properly to the department of Imagination.* When the intellect, as Ego, receives its ideas therefrom, by means of the internal senses, the cognitions are those of Imagination; just as, when it receives its ideas by means of the external senses, the cognitions are those of Perception. In expounding perception as a cognition, we said that the characteristic of consciousness is properly called *Attention;* and that perception, with its accompanying attention, is due to Observation, that is, the application of intellect to the communications of external sense. In expounding imagination as a cognition, we have similarly to say, that the consciousness which, as a force, necessarily attends this cognition, is termed *Reflection.* Imagination and Reflection are, therefore, inseparately connected, precisely as perception and attention are; the one as the *form*, the other as the *force*, with which the form is expressed. There can be no imagination without reflection, and no reflection without imagination. Imagination is the characteristic of the cognition, and reflection is the characteristic of the consciousness of intellect, when it receives ideas from the inner world of experience. And to what is the exercise of imagination owing? We answer, to *Consideration.* Without consideration there can be no imagination; just as without observation there can be no perception. Consideration is *the application of intellect to the intimations of the internal senses*, just as observation is *the application of intellect to the intimations of the external senses.* Without this application, the nerves of internal sense might convey impressions, but they would be blank,—intellect would fail to envisage them: there could be no consciousness of them in the mind: there could be no imagination and reflection.

In the exercise of consideration, as the exciter of imagination, there must be what is termed *Association* of ideas. For example, an idea received from the external world will not unfrequently *associate* or *suggest* some idea from within. How do we account

for this? Upon what principle of causality can we explain the bringing up of an idea by means of some idea introduced? The operation is accounted for, as all operations are, upon the principle of *affinity*. There is no other. We have found its applicability to explain all the forces of natural law in the economies of Physics and Physiology: we shall find its operation also explanatory of analogous phenomena in Psychology. There is no other explanation which has to us any meaning; and the explanation which this principle affords, is to us entirely satisfactory. Affinity has its modes of operation, as we have seen, in various characters, such as *cohesive* attraction, *elective* attraction, *chemical* attraction, and *polaric* attraction. All of these are variously illustrated in those physiological operations which conduce to the operation of mind, and without which, mind, in connection with, and dependence upon, a physical economy, could not be manifested. Polaric attraction, for instance, is manifested in every operation of nerve force, whether in the brain or out of it. Chemical attraction—which, by the way, is always effected with more or less of ebullition or emotion, as productive of will—is illustrated in every combination of ideas. Elective attraction is exhibited when an idea, present to the mind, *chooses* to itself another idea, as adapted to supply its want. Cohesive attraction is shown when, in realising an idea, we take in also, and in immediate association with it, another idea, having respect to the time, place, or relative objects of said idea; and this cohesive attraction is particularly illustrated when, upon the idea being recalled to the mind, the cohering idea returns along with it. Thus, I cannot think of a certain church in Rome, without thinking also of a certain countryman. The reason is, because, on entering the church, and consequently on realising the idea of it, I met, at the same time, there a certain countryman; and consequently realised the idea of him together with it. Both ideas being deposited as *cohering impressions*, the one cannot be brought up, without associating the other along with it. Association is neither more nor less than the *varied* operation of affinity. Sir William Hamilton and others have propounded principles of causality to account for such phenomena of mind as those we have just instanced, which principles, we have seen, are utterly incongruous and unsatisfactory.

SECT. III.—APPREHENSION.

We have said that Apprehension, and Conception, and Judgment, are subsidiary faculties pertaining to Perception or Imagination, or both. They necessarily rank under one or other of these departments. Their general characteristic is, that they have respect to *the relationship of things.*

We begin with Apprehension; and first, of Apprehension as grounded on Perception.—We define apprehension to be *the cognition of relations actually existing.* The world is built up under a connected series of relationships, which have their validity, of course, altogether apart from, and wholly irrespective of, our mind as observant of them; which relationships are acquired by us, of necessity, through perception. The relations of a thing, we may observe, are the time of it, the place of it, and the circumstantials attending it, as *e.g.* objects or events connected with it. It is obvious enough that, as each separate object in the world is an object of perception, so the associated elements, *i.e.* the relations thereof, are objects of perception likewise. But let it be noted (and this is a point of extreme importance), that the relationships of things cannot be equally cognised by all intelligences. There are certain relationships, for example, for which the lower animals have no receptivity. They have an eye to *things which affect themselves individually*, but they can take no cognisance of *things which affect other things.* They have a capacity to apprehend what relates to the *me;* but they have no capacity to apprehend that which relates to the *not-me.* Man has the power of apprehending both. In common with the lower animals, he has an apprehension of those things whereby his own immediate wants are supplied, and of those things whereby pain or pleasure might be acquired,—in short, of those things whereby his own personal circumstances might be affected; but he has a still deeper apprehension than this: he has an apprehension of things as they stand adapted to one another, apart from himself,—of things as they pertain to the circumstances of objects, *per se.* *This superior prerogative, belonging to man, constitutes the fundamental distinction betwixt man and the lower animals. It lies at the bottom of man's highest natural privilege. It forms the very basis of the most glorious of human gifts. It constitutes the foundation of our rational nature.* The apprehen-

sion of the relations of the *me* constitutes the door of *Instinct*: the apprehension of the relations of the *not-me* constitutes the door of *Reason*. Here is the precise line of demarcation betwixt the lower animals and man. If we are asked to say on what instinct depends, we answer, on *an apprehension of the particular relations which affect the special circumstances of the me*. If we are asked to say on what reason depends, we answer, on *an apprehension of the particular relations which affect, or happen to be associated with, the special circumstances of the not-me*. Reason means harmony or fitness, and so also does instinct; but the department of the latter extends to *those relations only which are adapted to the me*, while the department of the former extends to *those relations also, which are adapted to the not-me*. As all the movements of instinct on the part of the lower animals, and all the volitions of reason on the part of man, arise out of ideas apprehended, as will be shown in the succeeding chapter, we venture to offer these definitions as demanding general reception.

And how do we account for this difference of mental capacity in the apprehension of man and of the lower animals? Is it to be ascribed to any primordial difference of quality in the purely intellectual ground of either? Assuredly not; but simply to a difference in the respective characteristics of the cerebral apparatus belonging to each. The character of soul-substance, as a purely intellectual ground, we would set forth as *in all cases simply receptive, and therefore cognitive of impressions conveyed to it*. The character of the nerve-apparatus, without doubt we can prove, varies in its affinity for certain kinds of impressions; so that one kind of nerve will transmit one sort, and reject another. The nerve of the eye will transmit colours, the nerve of the nostril will transmit odours, the nerve of the ear will transmit sounds, and none of these will act as the organ of the other; the difference depending on the peculiar condition of each kind of nerve, and consequently on the respective affinity of each. We have said that the lower animals have the capacity, generally, of apprehending what affects themselves: how do we account for this capacity? Simply upon the affinity betwixt the conditions of the creature, on the one hand, and the conditions of the relation to the creature, on the other. *Both are material conditions*. The conditions of the animal economy are material; and, as carried to intellect by the nerves, intellect is merely the conscious

exponent of said conditions, which may be in a state of want, exhaustion, etc. The conditions which go to supply said want, as food, for example, are also material; and, when carried to intellect by the nerves, intellect is likewise the conscious exponent of these. But, when the idea of each is thus brought together, the one as in a state of want, the other as in a state to supply said want, an immediate impulse, from attraction by the junction of said ideas, arises, that the craving may be satisfied by means of the food presented. This is *Instinct.*

Can we doubt that the self-same kind of explanation belongs to that higher capacity of which man is the exclusive possessor on the earth—the capacity of apprehending the relations of the *not-me?* We have said that the grand prerogative of Reason is, when apprehending the condition of *others*, to adapt or suit circumstances thereto. Let us see, then, whether this prerogative is not dependent on the peculiar character of his cerebral apparatus. We took for illustration a case of want, in order to account for the operation of intellect in the department of instinct: let us take a similar case, in illustration of the exercise of reason. A man sees a neighbour to be in distress, because he has lost a sovereign: he finds the sovereign, and relieves his neighbour. The apprehension of the idea of distress in the man, arises before the mind, as the representation of a material state: it is an impression received by the external senses. The apprehension of the sovereign, as precisely adapted to supply the need, arises similarly also as the representation of a material state. The idea of the want, and the idea of supply, coming together on the sensorial ground, impel to relieve the distress, just as much as a sense of personal hunger and a sight of food would impel to satisfy its cravings. Suppose the distress of a neighbour arose from some sickness, and we sent him a certain medicine. The idea of the medicine, though coming through the exercise of imagination, is still a representation of what is material, being drawn by the idea of distress from the repository of ideas within, by elective affinity, as the idea adapted to correspond with that of the distress. Every illustration of reason can be similarly accounted for, and this will appear more fully when we come to expound the philosophy of Volition; and every illustration of reason which can be offered, may be shown as depending upon the capacity of the rational creation to apprehend the relations of the *not-me;* and said capacity can be shown

to depend upon that particular condition of the cerebral organs, which has an affinity for receiving the representations of the *not-me*. We lay it down as susceptible of thorough investigation and of satisfactory solution, that *intellect cognises merely and simply* the ideas brought to it; and we lay it down as equally undeniable, that *ideas are representations or impressions made on the material economy of the brain, and carried to the sensorial ground;* and, further, that it is a demonstrable fact, that *a varied operation of analysis and synthesis is effected there, through no other supposable principle than that of affinity.* It will come to be abundantly clear, therefore, that the province of reason pertaining to man stands dependent, not, as is usually supposed, upon principles purely inherent in his soul, but upon that apparatus which, in a material world, is so wonderfully adapted for building up a soul with truth, that is, with those elements in righteous combination which constitute the foundation of a new and more glorious development.

But we must take notice of Apprehension, as it stands in immediate connection with imagination. Herein lies the department of our *Remembrance.* We would define remembrance to be *the recognition of the facts, and of the relations of the facts, of our past experience.* We have already observed, that the facts of our experience, and of the circumstances *related* thereto, as originally cognised, are laid up as impressions in the cerebral storehouse, and subsist in our inner world there, quite objective to the Ego, just as the facts of the external world subsist in themselves, wholly objective to the Ego. Now, it is usually found, that, when any of said facts happen to be suggested to the mind,[1] some related circumstances are suggested therewith. And they are brought up because they stand associated, or linked therewith, in the storehouse of memory, having been originally gathered in immediate connection with one another. Apprehension, then, as it stands connected with imagination, is precisely the correlative of apprehension as it stands connected with perception. As apprehension by the external senses—*i.e.*, in connection with perception—may be denominated *the associated cognition of the actual*

[1] The term Mind denotes the Ego in the act of receiving ideas,—that is, the excitement of consciousness in intellect through sensation,—that is, intellect cognising (as it necessarily does in our present constitution) in immediate connection with, and in direct dependence upon, the cerebral apparatus with which it is blended, at the sensorium.

relations of the object perceived, so apprehension by the internal senses—*i.e.*, in connection with imagination—may be termed *the associated cognition of the actual relations of the object imagined.* This power of association in apprehension depends entirely upon the affinity of *cohesion*, which we have already explained, as simply the cognition of the idea of circumstantials along with, and therefore cohering to, the idea of the object to which these relate. If the relationship actually subsists in the external world, and if intellect cognises the relationship thus actually subsisting, it has *apprehension through perception:* if the relationship actually subsists in the internal world, as being the representations gathered during former experience, and laid up as its impressions in the storehouse of the brain adapted for this purpose, and if intellect cognises the relationship thus actually subsisting in said storehouse, it has *apprehension through imagination.*

SECT. IV.—CONCEPTION.

Conception, we have said, has respect to the relations of things, as well as apprehension; but it differs from apprehension in this, that apprehension is *the cognition of existing relations*, while conception is *the cognition of possible relations.* In the exercise of apprehension, we *discover* relations which *are* already objectively established: in the exercise of conception, we *devise* relations which *may be* objectively realised. Conception invents, and is therefore *creative of new relations:* apprehension merely discovers the *relations already created by another.* Good apprehension marks quickness of understanding in taking up instruction: good conception marks originality of genius in devising expedients.

The question now is, In what way is conception carried into exercise? How are new relationships formed out of existing ideas? How are ideas allied under new combinations? How are the forms of thought, whether in perception or in imagination, re-arranged, and freshly built up, under an economy of new relations? The direct answer is, by filling up a schema, termed *a purpose.* There can be no conception without a purpose. A purpose is the *fons et origo* of conception. The point then is, what is a purpose, and how is this realised? We answer: a purpose is a *naked schema*, or *outline of something in want*, which has to be supplied, or filled up with suitable material. It is when this naked form stands on the sensorial ground, as an idea, or

representation of some *obstacle* to be overcome—some *difficulty* to be surmounted—some *achievement* to be effected; and when the question, *how*, or *in what way*, this can be done, sets it forth as in a state of *craving* for the necessary answer from the repository of our ideas, that a concept begins to be formed. Every question proposed, is simply an idea in a state of craving, and requiring to be filled. It is a naked form, presented so as to have its blanks filled up. Under any of the ordinary circumstances of life, this *kind* of idea may be represented on the platform of ideas. If we are arrested in our course by some unforescen accident or obstacle, so as to render it necessary to devise an expedient to get out of the difficulty, an idea, in the character of an outline of want, is thus constituted—a *purpose is formed*, demanding execution.

Having, then, *apprehended* the purpose, as the idea whose wants are to be supplied, the point is, to ascertain how conditions are to be inserted therein—how the elements demanded are to be engrafted thereon—in short, how the empty framework, which constitutes the purpose, is to be filled up, in all its parts, in harmony with its wants, and with its relations in precise adaptation to one another, so as to set forth, when completed, what in fact is a *new creation*. The process of operation in this case, is in perfect accordance with the whole analogy of nature. The analogy of nature is, that where there is an object, having a want or craving, and there happens to be present (that is, in *contiguity*, as always requisite to the operation of affinity) a condition or element essential, as the object demanded, a process of *elective attraction* is established, in such a way that, setting aside all others, the object of supply is drawn directly to the object of want, and thereby the object in want (the purpose) becomes suitably conditioned with the nourishment required. There is an illustration of this kind of affinity in every exercise of conception. The naked scheme, as represented on the sensory, is the seed whose parts have to be developed: the cerebral nerves communicating betwixt the sensory and the storehouse of impressions, act for the time as the rootlets for drawing up the required elements or conditions therefrom: this operation, in fact, constitutes the *association*, or linking on of the elements demanded, in correspondence with the respective wants of the scheme to be built up.

Much of our success, in the exercise of conception, must needs depend, of course, upon the circumstance of a richly or poorly stored receptacle of impressions. It is, indeed, quite true, that a man may have acquired vast stores of knowledge, and yet his power of conception may be feeble, if the cerebral instrumentality employed in its exercise is feeble; and feeble it must be, if it has received little or no practice. At the same time, however effective the medullary nerves, which are employed in conception, there can be but small success as regards the inventive faculty, if there is but little store of impressions to choose from in the gatherings of experience. The man of deficient observation or deficient contemplation—the man who fails in the application of intellect to the forms around him—the man of poor perception, or of poor imagination, or of poor apprehension, must necessarily be proportionally circumscribed in the exercise of conception, just as the growth of a plant is circumscribed where scanty nourishment is supplied; for it is by perception, imagination, and apprehension, that the materials are obtained from which conception forms its new structure. But granting the requisite materials to be present, the power of conception then depends upon the efficiency of the organs of *association*, which are of a kind different from that which prevails in the exercise of apprehension. The association by which apprehension is exercised, we found, depends on *cohesive* affinity: the association whereby conception is exercised, we find, depends on *elective* affinity. Elective affinity operates where points of harmony exist betwixt the object on the sensory, and that existing in the inner world of forms—the storehouse of impressions. On this principle, then, is conception exercised: while the several parts of the framework (as we may term that idea called a purpose), however many, and however complicated, as forming so many items, for each of which a suitable counterpart is sought from amongst the impressions of the outer or inner world, are successively filled up, and filled up, too, in exact accordance with the law of *demand* and *supply*, the whole framework of the purpose, when perfectly replenished in all its parts, with the conditions demanded, stands forth subjectively in the imagination, as a *new economy*, and may be expressed therefrom as a new idea, just originated, and capable of being represented objectively before the external sense, as an object of perception.

Sect. V.—Judgment.

We come now to the consideration of *Judgment*, the last of the three relation-faculties. We have defined apprehension as the cognition of relations actually existing; and conception as the cognition of relations capable of existing. Judgment may be defined as *the cognition of difference* in the relationship of cognate ideas, that is, of ideas having similar properties. Before there can be an exercise of judgment, there must first be an apprehension of the cognate ideas in question: there must, secondly, be a contiguity of said cognate ideas, for the purpose of comparison: there must, thirdly, stand one of said cognate ideas, as a standard wherewith the other may be measured or compared, and, consequently, whereby it may be judged as to its character. Judgment is emphatically *the cognition of character*. It is invariably ascertained by a comparison of properties with properties of the same kind, one kind being always regarded as the scale or standard of admeasurement for ascertaining the character of that in which judgment has to be pronounced. Judgment and comparison have sometimes been confounded; but they are by no means synonymous terms. Comparison is the *application* of one idea to another of similar properties, and which exists for the time in the mind as a standard, or supposed best possible condition of said properties. Judgment is *the cognition of difference* betwixt the idea whose character is demanded, and the standard idea to which it is applied. If the standard idea realised in the mind, which in all cases must constitute the *touchstone of character*, is doubtfully regarded as such, all judgment connected therewith must be correspondingly distrusted.

Judgment may be realised, like the other relation-faculties, in connection with objects of perception or of imagination. As regards the former, not only the thing to be judged, but also the standard whereby it is to be judged, may be objects of the external senses. The merchant, who weighs or measures his goods, applies an *external* object to an *external* standard, and gives forth the precise weight or length demanded. Of course, the process of mental operation, of which the external act is the representation, takes place *within* himself. He may, indeed, give away what he calls so many yards, or so many pounds, without an actual application of the standard externally; yet there must be an

application of the standard (*i.e.*, the idea or representation of it) internally, otherwise the judgment can be but a name, and must be altogether a matter of chance. As regards imagination, the thing to be judged, as well as the standard of judgment, may both be absent to the external senses, and present only as objects of the internal sense; but the process of judging is precisely the same as on objects of perception. The standard idea may exist as an impression already realised, and subsisting in the storehouse of memory; and the idea of the thing to be judged may also be suggested or brought up from memory by something that has been spoken. For instance, I may now contemplate the true value of the brooch or bracelet which I declined to purchase yesterday, and which is presently brought before the mind by the association of the circumstances. We repeat, therefore, that in all cases of judgment the mental operation is the same; and arises from the application of the thing to be judged, to a standard as the best condition of the same properties, and already acquired by the mind. It is thus, and thus only, that we can come to a conclusion respecting *character:* it is thus, and thus only, that *judgment* as such—judgment of any kind, in fact—can be pronounced.

As to *correct* judgment, this depends upon two things, viz.: 1st, the acquisition of the best possible condition of a thing, as the standard of admeasurement; and, 2d, of the actual condition of the thing to be measured, that is, of the thing whereon judgment has to be pronounced. Were there, in all cases, by all parties, to be a realisation (in idea) of the same standard for comparison, and also a realisation of the self-same characteristics of things for judgment, *there could be no discrepancy of judgment among men*, without direct dishonesty or perversion: there could be no more difference of sentiment in respect to the character of a physical object in relation to its standard, than there is difference of sentiment in respect to any demonstrated mathematical conclusion, which, like all other judgment, is the cognition of difference, on a comparison of cognate properties. If, on any particular subject, men have no *fixed* and uniform standard in the mind, it is to be noted, that there can be no fixed or uniform conclusions in the exercise of judgment. Judges may differ as to what constitutes the best penmanship, or the best horsemanship, not because they fail to acquire an exact idea of the specimens exhibited, but

because there exists a discrepancy of idea in their minds with respect to the standard whereby they are to be measured.

The self-same principles of causality prevail in the exercise of judgment in the *moral* world, as in the physical world. We shall have occasion to point out somewhat in detail, when we come to the next chapter, the principles upon which all moral volitions are founded; and as these are necessarily the same which guide us in all moral conclusions, we shall here simply state, that we enter the moral world when, and only when, we apply our reason to the sentient, that is, when we have an apprehension of THE FITNESS *of things to the circumstances of sentient creatures. The fitness* of things in connection with sentient beings, constitutes the elements of judgment in the moral world; and before moral judgment can be pronounced, in any case, there must have previously been acquired *a standard idea of fitness or suitability,* as applicable to that case. It is out of this apprehension of harmony, or of fitness, that we have, in various circumstances, a sense of propriety, a sense of justice, a sense of duty, or a sense of merit, according to the *kind* of fitness in the moral relation apprehended.

The lower animals, as may be readily supposed, are capable of exercising judgment in a very limited degree only. As they have the capacity of apprehending those relations only which exclusively refer to the *me*, so, of course, they are capable of forming judgment on what merely they are able to apprehend. The consequence is, that, in their case, judgment must be confined to that simply which holds a relation to self. The exercise of their judgment, however, so far as it goes, must be precisely similar to that which belongs to ourselves. By experience, they acquire a standard idea of that which best suits them; and accordingly, when a cognate idea is presented, an emotion in harmony with said experience is aroused. Let the stick, with which the dog has been beaten, be shown a second time, and his emotion will describe his judgment of it immediately. But to the subject of emotions we shall proceed by and by.

Before we leave the question of Judgment, and come to the science of the Will, we would offer a remark or two on the subject of Logic. Logic has to do with the formation of conclusions, and may be defined as *the science of correct judgments.* We have seen on what correct judgment depends. Logic is the due and

proper comparison of properties with properties of a similar kind, in order to correct judgment. Logic has been described as an *art.* So, indeed, it is, when we have respect to the very exercise of our minds as rational creatures. And there is this marked distinction betwixt the art of Logic and any other art, that the art of Logic stands not only *preliminary* to the science of Logic, but to every other science; whereas any other art stands *posterior* to the science of the subject of which it is an art. The art of shoemaking, of cabinetmaking, of clothmaking, or of any business whatsoever, can be practised only when the knowledge thereof has been acquired. In short, in the exercise of all the arts, the *science* must needs be acquired—that is, the knowledge how to combine the elements concerned into a particular phenomenon must be acquired—before the art can be practised. In every case the practice of the arts can only proceed from the science. In Logic, however, the case is different. There is no man who does not exercise the art of Logic, before he knows anything of the science of Logic. There are thousands who are adepts in the *art* of Logic, who properly know almost nothing of the *science* of Logic. Every child who is acquainted with the calculation of numbers—every one who exercises his reason on any subject whatever, who draws conclusions and forms judgments on the matters of his daily and hourly thought, exercises the art of Logic; whereas, if you come to question him on the science of Logic, in other words, upon the principles in virtue of which he thus reasons, he is utterly lost, and bewildered: he is absolutely ignorant. The science of Logic, as we shall afterwards discover, is necessarily the last of the sciences, in as far as its position as a science depends upon the ascertainment of the very conditions of mind out of which certain conclusions necessarily flow; and this our position stands, if, as we have endeavoured to show, the conditions of mind can be known only out of, and therefore posterior to, the conditions of matter. We shall have occasion to speak of the science of Logic when we come to the abstract science of Intellectualism. What we are concerned here to observe chiefly, is the doctrine, that, in the exercise of our judgments, *the art of Logic, as such, takes precedence of all science as such.* All that is requisite to exercise the art of Logic, is simply an understanding of the elements employed by Logic. Before I can logically put A, B, C, etc., into any proper combination for a purpose or

phenomenon, I must understand what A, B, C, etc., *individually* are. Let it be observed, then, as an universal maxim, that understanding of elements, as objectively presented, is pre-essential to the exercise of the art of Logic. It is out of the understanding of elements *per se*, that *science* in connection with said elements is acquired. Science is the knowledge of the relationship of the elements as establishing an *economy*. I must understand what 2, 3, 4 are individually, before I have the science that their product is 24. Understanding employs the art of Logic in order to the acquisition of science. But, as regards the science of Logic, there must, first, be an understanding of thoughts, as subjectively realised. Logic, as a science, has to deal with *Thought* as such. Professor Ferrier says, what is true, that "men reasoned, generation after generation, long before they knew a single dialectical rule, or had any notion of the construction of a syllogism. The principles of Logic (he adds) were operative in every ratiocination; yet the reasoner was incognisant of their influence, until Aristotle anatomised the process, and gave out the laws of thought, in its more obvious and ordinary workings." But then the same authority says: "Whether Aristotle's rudiments of Logic have not an antecedent rudiments—which time may yet bring to light —is a somewhat unsettled problem in speculation." Why, Aristotle's Logic, or any system of Logic, as exhibited among the many various treatises on Logic by different men, so far as they truly represent the ratiocinative operations of the human mind, necessarily has its foundation in what is constantly transacted within. Said systems are attempts to display how certain conclusions follow upon the comparison of certain premises, one of which is termed the major proposition, and the other the minor proposition. By the science of Logic, we point out the very foundations of all Logic, and the principles upon which all reasoning proceeds; and the extreme simplicity which attends the mechanism, out of which judgment is in our view effected, will readily commend itself to the impartial student.

We hold that a portion of the cerebral apparatus is employed for the purposes of judgment, just as a portion is employed for the purposes of apprehension, and a portion for the purposes of conception. That for the purposes of judgment requires simply, that, when the minor proposition is stated, which, in fact, is the stating of the idea to be judged, and respecting which a conclu-

sion is to be formed, there be an apparatus admitting, at the same time, the major proposition also, which is, in fact, what we have termed the cognate idea, existing as the standard idea, wherewith the idea to be judged is compared, and without which no judgment can be pronounced. The standard idea, which is the major proposition in any comparison, is regarded as the best possible condition of the properties belonging to the idea in the minor proposition, as expressive of the thing whose character is to be determined. Such an apparatus, existing as one of the sensorial ganglia (either the *thalami optici*, or, as we think, the *corpora striata*), forms the organ whereby all logical conclusions are ascertained. Connected as it is directly with the repository of impressions in the brain, no sooner is the idea presented which forms the minor proposition, that is, *the subject* of consideration, than, by elective affinity, it draws forward the major proposition, that is, the impression realised as the best condition of the properties belonging to said subject; and instantly an intuition of the *character* of said subject is obtained by intellect. Of course, the major proposition may be set forth objectively along with the minor proposition—the *standard* of judgment, as well as the *subject* of judgment. In this case, there is no need to grope for a standard from the furniture of the mind: The process of judgment is all one. There is no syllogism, from the most simple to the most complex, but stands under this category; and we have no hesitation in affirming that our treatises on Logic, all too cumbrous and confused, from an ignorance of the principles on which it is founded, might be very much simplified, in the light of the views which we have propounded.

CHAPTER III.

WILL.

We come now to the emotional department, wherein we have to inquire into those causes which go to the constitution of Will. How is will generated? We answer, by the emotion which arises under the contiguity or contact of certain ideas. It is a universal rule throughout the whole economy of nature, that wherever a new combination of elements takes place, it takes place, more or less, yet *always* in some degree, under the manifestation of a *new excitement.* We have seen, that ideas pertain as much to the physical as they do to the intellectual,—that, in fact, they are the impressions formed on the sensorium, the composition of which we have described as a blending of the cerebral and soul-substance, and the ground, therefore, or point, whereat intellect and brain are, so to speak, joined together. It is here that the operations of mind are transacted, as at once affecting body and soul. The bringing together of certain ideas, therefore, on the sensorium, gives birth to certain emotions of mind, according to the nature of the conditions of the ideas, and therefore according to the kind of affinity which may be aroused. There can be no emotion of mind, apart from the ideas whose contiguity generates the same; and therefore all treatises on Mental Philosophy do well, first to discuss the principles of intelligence, before proceeding to those of will. And were this fact of will, as utterly dependent on ideas preliminarily existing, and arising only in virtue of the presence of ideas, duly considered and remembered, it would institute a maxim of infinite value in its application to the right interpretation of one of the most important questions debated in theology, viz., that of decrees. To this we shall have occasion afterwards to refer: in the meantime, let us endeavour to ascertain the true philosophy of Emotion.

Sect. I.—Emotions.

Emotion is properly a force, just as sensation is a force. Emotion is that sensational excitement which is aroused by the junction of certain ideas. We have said, there can be no *force*

which is not accompanied with some *form*, as containing in it a certain condition: for instance, *sensation*, as a force, is necessarily accompanied with an *idea*, as its inseparable form; and *consciousness*, as a force, is necessarily accompanied with a *cognition*, as its inseparable form. So it is with respect to *emotion*, as a force; it is necessarily accompanied with *feeling*, as its inseparable form. Feeling, therefore, is that expression or form which is necessarily manifested in connection with the force of emotion; and, like all ideas, has its validity represented on the sensory, or *idea-ground*. Feeling is the spontaneous expression arising from the combination of certain ideas; and as ideas are always objective to the Ego, or conditioned intellect, so it is with respect to feelings. Emotion and feeling are simply new characteristics of sensation and idea. Now, as sensation is a force prevailing in the sensorium, which has its correlative in the pure soul-substance of the Ego, and is termed Consciousness; so emotion, which is a force also found to prevail in the sensorium, has also its direct correlative in the Ego, and is termed Will. *Will* is properly a force in the Ego, just as consciousness is a force in the Ego; and as there is no force but is necessarily attendant with some form, so the general name for the form accompanying will, is called *Thought*, or *Sentiment*. Thought, or sentiment, therefore, in the Ego, stands correlative to feeling in the sensory, just as will stands correlative to emotion. We shall have further to discuss the question of will; but it is obvious that this discussion can only come out of the elucidation of the question respecting emotion.

Emotions may be ranked under *three* departments: first, those which bear directly upon *self*, as the object of thought; second, those which bear directly upon *not-self*, as the object of thought; third, those which exercise a regulative sovereignty over the emotions belonging to these two departments, holding a permissive or counteractive agency in respect of their operation. Emotions belonging to the first department may be classed under the name of *Self-love:* emotions belonging to the second department may be classed under the name of *Sympathy*. Self-love will thus be a general term for all the emotions which have a direct interest in the *me;* and sympathy for all emotions which have a direct interest in the *not-me*. As to the emotions belonging to the third department, it is to be observed, that they invariably

arise out of the presence of *moral* elements, and, consequently, exert a controlling power over the emotions of self-love and sympathy,—that is, over all emotions, whether arising from an interest in the *me* or the *not-me*. Emotions belonging to the third department may all be classed under the name of *Conscience*; so that self-love, sympathy, and conscience, are terms expressive, generally, of all the classes of emotions which exist.

Sect. II.—On Self-love.

By Self-love we understand a craving in connection with *self*. This craving may show itself under different conditions: hence self-love comprehends the two sub-classes of emotions, under the names of *Appetites* and *Desires*. As to the former: if the nutriment whereby the body is supplied and supported is spent, the body begins to be in need of more; hence arises a feeling of want—a craving for food—an emotion of hunger or thirst. This we call Appetite. Appetites may be superinduced beyond those which absolutely belong to nature. If we have accustomed the body to the use of stimulants, narcotics, etc., whereby it has acquired, so to speak, a new disposition or craving, an *appetite* for these—such as tobacco, ardent spirits, or other artificial excitements—will have thus been engendered: such is the assimilating tendency of our system.

What we call Desires have their impulse aroused in connection with those elements which we experience, as *affording gratification or pleasure*. According to the nature of the elements, they are ranked under a variety of names. For example, we find, variously prevailing, the desire of *power*, the desire of *esteem*, the desire of *knowledge*, the desire of *wealth*, the desire of *society*, the desire of *home*, the desire of *travelling*, etc. How are these desires respectively originated? The desire of power is due to the pleasure which we experience, as attending the subjection or submission of others to our authority. The desire of esteem is due to the pleasure we experience in obtaining praise. The desire of knowledge has its beginning in the pleasure we experience in its acquisition. The desire of wealth is originated in the pleasure we experience in connection with its possession. The same thing is to be said in respect of the desire of dress, the desire of furniture, and the like, as particular objects of fancy. So also in respect of the desire of society, the desire of

superiority, and many others, ascribable to some, and utterly dormant in others. Desires have, each of them, their origin in the experienced gratification and enjoyment connected with their acquisition.

It may be asked, how does it happen that desires are so different, both in their character and in their intensity, in persons, too, who have had very much a similar training? The answer is obvious: we ascribe these differences to *the different predisposing affinity of different constitutions.* Thus it is that one man has greater satisfaction in the possession of some things than another man has in the possession of the same things. It follows therefore, also, that the one should have a greater craving for them than the other. The craving is to be accounted for simply on the fact, that as by experience certain things give pleasure in the acquisition of them, so, whenever an object affording pleasure is present, a craving is necessarily established for its attainment. The fact, that men are differently conditioned in their respective constitutions, and, by consequence, have different predisposing attractions or repulsions, does not disturb the fact, that our desires have, one and all of them, their origin in experience; for it is only when objects of attraction have come to be presented, that the desire, which must have otherwise been dormant, comes to be aroused. It is a universal rule, that when the mind has once become conditioned with a particular idea, known to have given gratification, or the contrary, by actual possession, that upon the return of said idea, there is an illustration of the law of affinity, that is, of the law of attraction or of repulsion, as the case may be. We have said, that no emotion could arise, but under the contiguity of at least two ideas. Here, then, they are,—the one being in a condition of *demand*, the other in that of *supply* thereto. In the case of the former, there is said to exist a fondness for certain elements: it requires only the presence of the elements to have the desire manifested.

SECT. III.—ON SYMPATHY.

We come to the consideration of Sympathy. By sympathy we understand a craving for the *not-self.* This also, like self-love, is susceptible of extensive classification. Indeed, it changes its features upon every change of its object. If we say that sympathy comprehends all our *affections*, it is observable that the

affections differ according to the particular kind of *not-me* which happens to be represented, and consequently, according to the particular kind of gratification which *its* indulgence may beget. For example, if our offspring happen to be the idea with which we are for the time concerned, our sympathy for them takes on the form or feeling of *love*. If an acquaintance is presented, sympathy assumes the form of *friendship*; and sometimes friendship may be strengthened into *love*, according to the amount of attachment we bear to our friend. If a beggar comes before us, our sympathy takes on the feeling of *pity*: if a benefactor, that of *gratitude*: if an aged patriarch, that of *veneration*: if a person of worth, that of *esteem*: if an enemy in trouble, that of *magnanimity*: if a party in danger, that of *gallantry*: if our country in need, that of *patriotism*: if a deserving object, appealing for aid, that of *generosity*: and so of other affections. Of course, wherever there is the positive affection, by the reversal of conditions there may be the negative; for affinity, implying attraction, comes to imply repulsion, when the elements are of an opposite kind to those which excite sympathy. In that case, they excite antipathy. Hence, under antipathy, we can account for what have been mistermed the "malevolent affections."

Under sympathy, we would embrace all those feelings which arise in connection with objects of *Taste*. Taste is a term expressive of our *sympathy for form merely*: consequently, when colours, shapes, patterns, and so forth, come to be elements of cognition, the attachment of the mind to one form, in preference to another, is called by the name of Taste. Generally speaking, there is no absolute standard in regard to taste; and doubtless for this reason, that in respect of form, there is no definite limit which may not admit of some kind of modification, any of which may, for the time, be the standard object of taste, and, by consequence, the prevailing object of fashion, till displaced by the introduction of some fresh modification, as calculated to supersede it as an object of attraction. Objects of taste may be comprehended under two classes: one having more immediate regard to the category of the quiet and unostentatious, the other to that of the bold and daring. The objects of the former inspire that sympathy termed *Admiration*: the objects of the latter inspire that sympathy termed *Awe*. It may be mentioned, that in connection with the cognition of any object whatever,

when the idea of *novelty* is attached thereto, the sympathy aroused thereby, takes on the character of *wonder*.

In all cases, then: in the cases comprehended under sympathy, as expressive of our concern for the *not-me;* as well as in the cases comprehended under self-love, as expressive of our concern for the *me,* the self-same principles prevail. In all cases, emotion arises, described by its accompanying feeling, which always and of necessity differs, according as the conditions of the objects exciting the emotion differ; and thoroughly confirming the principles for which we have been contending in these pages, viz., that *condition* is the causal element, *affinity* betwixt conditions is the moving principle which generates operation, and local *relationship* under contiguity, is the regulative law, whereby a particular phenomenon is established.

Before quitting the subject of emotion, as belonging to the departments of self-love and sympathy, it is necessary to notice a class of emotions, which are not exclusively confined to the one or to the other, but may be, and are, manifested in connection with either. We refer to those feelings termed *Hope, Fear,* and *Courage.* Like all other emotions, they can only arise in connection with that which directly relates to the *me* or to the *not-me.* When we apprehend the element of *danger,* whether as applicable to the me or to the not-me, an emotion, having the form of *fear,* is aroused. When we apprehend the element as one of *unavoidable danger,* then the emotion takes on the form of *courage.* When we apprehend the element of *success* in a process which is yet unaccomplished, an emotion, having the form of *hope,* is excited. If the element of success begins to disappear, then hope becomes changed into *anxiety*: if it disappear altogether, it is supplanted by *despair.*

It is observable, that while the objective element thus changes the character of the emotion, when it is subjectively apprehended, the subjective element also, which constitutes the temperament of the individual, exhibits various modifications of character. For example, the same element of danger may inspire various modifications of fear, such as caution, timidity, etc., in different persons; and so also, when courage is excited, the same element of unavoidable danger may be found to excite boldness, rashness, etc., in different persons; and again, in connection with hope, the same element of apprehended success

may be found to stimulate faith, assurance, or presumption,—in each case there being a variation of emotion, according as the conditions of the subjective temperament of the individuals differ. When we say that different characters of disposition and of feeling are manifested or brought out by the self-same elements, in the case of different persons, and not unfrequently in the case of the same individual, under different circumstances, we simply mean, that the inherent condition of the nervous and cerebral composition, as representative of the state of the constitution for the time, expresses its affinity in connection with the impressions of things, precisely in accordance with the character of *said conditions at the moment.* As regards what is called constitutional temperament, much may, of course, be done to modify or alter its natural condition, and, by consequence, to change its affinity, by the training which may be superimposed, exactly as artificial desires, not natural, may be acquired, by the habitual use or indulgence of certain ingredients. In the latter case, we generate desires which do not inherently belong to us: in the former case, we suppress desires which may be said to be born with us. In the one case, we alter the law of affinity, by bringing on a changed condition of constitution, through the superinduction of elements, for which we have no natural craving: in the other case, we alter the law of affinity, by bringing on a changed condition of constitution, through the very counteraction or suppression of elements, for which we have a natural craving.

We may be expected to speak of the *Passions,*—to explain their nature, and to account for their characteristics. Nothing is easier, upon the scheme of causality which we have been endeavouring to establish. *And what are passions but the excess of ordinary emotions?* Passions may prevail on the *positive* side, or on the *negative* side of affinity,—that is, on the side of attraction, or on that of repulsion; and this in both departments,—that is, of self-love and of sympathy. When passion prevails, then it is that moral elements are shut out from all play in the regulation of our feelings, and that the controlling power of conscience is, for the time, kept from asserting its prerogative. The explanation of this doubtless is, that when feelings are manifested in *excess,* the condition of the operating ideas is so changed as to repel the entrance of the moral element into combination there-

with, and, consequently, to exclude its influence. We proceed to the consideration of the department of morals.

SECT. IV.—ON CONSCIENCE.

The third and last department of emotions has respect to the operation of Conscience. And what is Conscience? Conscience, like all other emotions, may be aroused on the side of attraction, or on the side of repulsion, according as the conditions in the emotion of self-love or of sympathy have an affinity either attractive or repulsive of the moral element: that is, conscience may *support and carry out*, or *repudiate*, the emotion of the inferior department. If no moral elements present themselves in connection with the ideas which generate the exercise of self-love or sympathy, then no emotion of conscience can be generated.

The question now is, in what does the moral element consist? We answer, in the idea of *fitness to the sentient creature*. The moral element is simply an extension of the rational element. The rational element consists, generally, of the idea of *fitness*—no matter to what. Morals, then, constitute a special department in the category of reason. There could be no morals without reason. Reason is the *generic*, of which morals form a *particular*. Reason includes morals. As we have said, if the rational element means *fitness*, the moral element means *fitness to a creature susceptible of pleasure or of pain*. Fitness has respect to the me or not-me. Moral elements can be apprehended by those only who can apprehend, not merely the relations of the *me*, but also the relations of the *not-me;* and, as the exercise of reason has reference to the *fitness of one thing to another*, and is properly defined as the adaptation of conditions to circumstances,—*i.e.*, to *related conditions* generally,—*i.e.*, to contiguity of time, of place, of objects or events,—so the circumstances out of which moral elements arise, are the particular conditions of the *sentient* creature. The circumstances which affect the sentient nature, may be described as those conditions which bring profit or loss, pleasure or pain, to the creature. These relations are impressions, first of all, made upon the cerebral apparatus, like all other impressions; and they have their appropriate affinity, like other relations. It is further observable, that, though the relation of *fitness* is a relation of gradation, according to the character of the *sentient* object apprehended; first as applicable to the lower animals,

second as applicable to human beings, third as applicable to the Divine Being; yet the relation of fitness to the sentient, is an *ultimate* relation, behind which there can be no other relation affecting the sentient. If ultimate, then the emotions arising out of this relation are necessarily posterior to emotions of mere self-love or sympathy; in short, posterior to all the other emotions which can arise in connection with any subject on hand. It is thus enabled to exercise a controlling influence upon the emotions preliminary to it,—*i.e.*, upon all inferior emotions. The blacksmith may hammer his iron into what shapes he pleases; and he exercises his reason in fitting or adapting one thing to another in his work, in all which the moral element does not enter, so long as the suitability has reference to things without life and feeling. The moment a reference is had, of adaptation to the case of a sentient creature, that moment there is the apprehension of the moral element. While there is nothing of the moral in fitting the nails requisite to the iron shoes he is preparing, there is the moral element in fitting the shoes and their nails to the horse requiring to be shod. And not only this:—not only does the moral element prevail in adapting the shoes to the horse, but, in the pursuance of the connection, the moral element comes additionally to prevail in adapting the horse in this respect to its owner. And the higher the sentient being is to whom the fitness must be made harmonious, so proportionally higher is the emotion of conscience in controlling all inferior elements into subserviency to him to whom the adaptation ultimately refers. In respect, therefore, of the exercise of conscience, as the emotion proceeding from the presence of the moral element: what we would have clearly understood is this—that, as *adaptation* is obviously the end or ultimatum in the exercise of reason, so the emotion which arises in connection with *adaptation to the sentient*, must of necessity have a controlling or regulative influence upon all emotions which would in any way infringe upon, or operate against, the conditions of the sentient,—every inferior arrangement being squared to harmonise with the requirements of the highest relation.

In respect to the principle of its operation, it is with conscience precisely as it is with self-love and sympathy. As regards self-love, there can be no emotion in connection with the *me*, unless by the contiguity or conjunction of a particular idea with the

condition of the me, and as therefore particularly affecting the *me*. And, as regards sympathy, there can be no emotion in connection with the *not-me*, unless by a similar junction of a particular idea, as directly affecting the condition of the not-me as subjectively realised. In exact conformity with this principle of operation of emotions, there can be no emotion of conscience, as regulative of those of self-love and sympathy, unless by the junction of the moral element,—that is, of the idea of *fitness* in a thing *to the person* for whom its application is intended. The emotion of conscience favours adaptation to the highest interests of a sentient being, as advantaged thereby; and is repulsive of the contrary. Before it can properly operate, there must be, first of all, an idea of the circumstances or condition of the person to be affected by the application of an object; and, secondly, an idea of the conditions of the thing or object to be applied. It is only out of these two, as brought into contiguity, and the one affecting the other, that the idea of fitness can arise; and, according to the character of the fitness, so will be the character of the emotion. If I have served an acquaintance in a mere matter of bargain, an emotion of satisfaction arises. If I have helped a friend in distress, the emotion is one of pleasure. If, however, I have sold my horse to a neighbour for more than its value, the emotion is one of pain. And here is the value of having conscience as our guiding law. Self-love, if uncontrolled, would demand more than is due: the idea of unfitness or of unfairness, which is excited upon coming to the gratification of such self-love, arouses the emotion of conscience, which represses the selfish craving.

The peculiar *sense* which arises in connection with the emotion of conscience, is the *form* with which conscience, as a *force*, is necessarily accompanied. Here it happens, as in all other cases, that *there is no force but is inseparably joined with a form*. How varieties of form arise, it is perfectly possible to describe. The forms wherewith conscience is variously accompanied, are a sense of *propriety*, a sense of *justice*, a sense of *duty*, a sense of *merit*, etc. As the emotions, which belong to self-love and sympathy, have that general form which is known under the name of *Feeling*, so the feeling which describes the emotion of conscience is particularly known under the name of *Sense*. *Sense* and *conscience*, therefore, are inseparably connected; just as *idea* and *sensation* are; just as *cognition* and *consciousness*

are; just as *perception* and *attention* are; just as *imagination* and *reflection* are; just as *emotion* and *feeling* are; just as *will* and *sentiment* are. As there can be no emotion which is not accompanied with some feeling, so that particular class of emotions known under the name of Conscience, are inseparably linked with that particular class of feelings known under the name of Sense. And in the class of feelings termed Sense, sense is a *generic* admitting of the variety of *particulars* referred to. The precise sources of these particulars are perfectly analogous to those which produce particular feelings in the inferior classes of emotions. As different kinds of *feeling* arise in pure dependence upon the character of the *related object*, so different kinds of *moral sense* arise in pure dependence upon the character of the moral element which stands as the related object. We have already so far seen under what circumstances the moral sense is introduced; and we have noticed what various forms it assumes, according to the nature of the moral element that is apprehended. We have pointed out where reason operates without the moral element, even where the relationship is absolutely confined to things without life, or incapable of pleasure or of pain: we have observed that yet the element of fitness, in respect of inanimate things, lays the foundation right and wrong, and that this principle of right and wrong, carried up through sentient objects, from the lowest to the highest, brings in all the illustrations of morals. For example, in the fitment of the parts of a machine to one another, there is a right and a wrong; and so of all other adjustments among things without life, or rather without sensation; in which, however, there is the exercise of reason without the exercise of morals. If, however, the machine has to be adapted to the requirements of a fellow-creature, the element of morals forcibly intervenes. If a tailor make a coat of many colours, and patch it in the most grotesque fashion, and set it up as a curiosity: there is nothing contrary to morality in the junction of pieces of different cloth, if regard is simply had to the mere fact. But if, on the one hand, regard is had to the misapplication of the man's time in the execution of a useless work; or if, on the other hand, we find *him*, or another *person*, wearing said coat, *a sense of impropriety* is immediately felt as attachable to such conduct. There is no harmony, in the one case, betwixt man making a true use of time, which ought to

be for some worthy end, and an employment of this nature; and there is no harmony, in the second case, betwixt our standard notion of man, in the coat to be used, and one of this character. We say, then, that the emotion of conscience is accompanied with that form termed a *sense of propriety*, when the rational being adapts things in harmony with his circumstances; and we would define propriety to be *that which harmonises with the best condition of the me or not-me.* Again: suppose the tailor is commissioned to make a coat of a certain value, but substitutes one of inferior value, our *sense of justice* is infringed. Our sense of justice depends upon our apprehending *an equivalent for value* in a man's conduct. While a sense of *propriety* arises out of the harmonising of our conduct with the standard of the circumstances *generally* surrounding us; the sense of *justice* arises out of the harmonising of our conduct with the standard of that *particular* relationship to another, termed *exchange.* The apprehension of suitability, in the one case, excites a sense of propriety: the apprehension of suitability, in the other case, excites a sense of justice. Again: in correlation with a sense of justice, stands a *sense of duty.* For instance, if a party has a *claim* upon us, the apprehension of the claim excites a sense of duty. Duty has to do with harmony in that particular relationship of the individual to another, termed *obligation. Suitability to an obligation inspires a sense of duty.* Again: suppose a case of pure helplessness, having no just claim upon us, the apprehension of said want excites in us a *sense of goodness.* Goodness has to do with harmony in the particular relationship of the individual to another in *dependence. Suitability to a helpless dependent inspires a sense of goodness.* Again: suppose a case of spontaneous exertion in the fulfilment of a laudable object, the form of conscience presented in connection with this idea, is a *sense of merit,* and conscience incites to supply the natural cravings of merit, that is, to give it suitable reward. Merit has to do with that particular relationship of the individual to another, termed *elevation. Suitability, therefore, to some standard of laudable elevation, inspires a sense of merit.*

The foundation of morals, then, is capable of being ascertained, and its regulative and controlling sovereignty over all desires and affections fairly understood. We see that moral emotions arise on precisely similar principles as all other and inferior emotions,

viz., through the presence of certain ideas. Were there no inferior emotions, such as are comprehended under appetites, desires, and affections, there could be no moral emotions as regulative guardians of our conduct. It is when animal or worldly will is excited, that an immediate cognition is realised of the *suitability* or *non-suitability* of said will to the circumstances to which its exercise pertains. The idea of *suitability* constitutes the very foundation of all reason, and therefore the very foundation of all moral emotions—the *fons et origo*, whence every exercise of conscience emanates. Suitability is the *generic* term applicable to the exercise of conscience generally; and, like everything else that is generic, it is found under a variety of *particulars*, the whole number of which constitute the generic circle. Hence the idea of *suitability to circumstances*, when some animal or worldly emotion is on the eve of becoming will, excites a new emotion, which takes on variously the form termed a sense of propriety, or a sense of justice, or a sense of duty, or a sense of goodness, or a sense of merit, according as the ingredient has respect to simple social relations, or to those of business, or to those of admitted obligation, or to those of acknowledged dependence, or to those of elevation to a still higher grade. The objects (ideas) associated in the mind, for the production of conscience, are not simply the appetite, or desire, or affection emanating from an animal or worldly condition of the soul, but, in dependence on these, there must be also the external circumstances connected with these, viz., the conditions of time, place, and parties related, to the exercise of such appetite, or desire, or affection. It is the cognition of suitability, or otherwise, to said external circumstances, that arouses the force of conscience.

A distinction has to be made betwixt conscience, as excited by the apprehension of *moral* elements merely,—that is, by the relation of fitness to the worldly circumstances of man; and conscience, as excited by the apprehension of *spiritual* elements,—that is, by the relation of fitness to the heavenly circumstances of man: yet the principle of its origin, and the character of its operation, are precisely the same in both cases. The difference consists in the difference of the objective element, subjectively apprehended, to which a man has to adapt himself. Fitness to the worldly circumstances of man, we term the *moral* element: fitness to the heavenly circumstances of man, we term the

religious or *spiritual* element. The religious element is an extension of the moral element; but cannot be a contradiction of it. The religious element brings into the representation still loftier motives (emotions) for regulative action than what the merely moral element affords. Moral law, as derived from the aspects of pure worldly relationships, works in ALL men, where attention is paid to preserve harmony to the apprehended circumstances of ourselves or others, as *creatures of the world.* Conscience, in its properly religious or spiritual aspects, works in those who are careful to preserve harmony, or adaptation to those conditions which have been received by faith in revelation, or otherwise, as essentially pertaining to the happiness of a future state of being. In the exercise of mere moral will, a man properly looks to *the relationship in which he stands to the world:* In religious will, a man properly looks to *the relationship in which he stands more directly to God.* The religious emotions (when the apprehension of God's commandments is correct) produce what is called the will of God in us; and, without the presence of what have been termed "the things of God," or "the things of Christ," as operative ideas in the mind, we could have no religious will of the right sort. The heathens have religious will as well as Christians; but the religious will of the one differs from that of the others, precisely as the supposed commandment of the one differs from that of the other; and hence we can explain why it is that conscience, in one instance, may be found to operate in diametric opposition to conscience in another—a fact which has puzzled philosophers and theologians in no small degree. It is obvious that, in order to the fixation of conscience into a *true* regulative course of operation, there must be a revelation of the *truth* to his mind. There must be *true light* before there can be *true love:* there must be an apprehension by us of *the ideas of God,* before there can be an operation in us of *the will of God:* there must be the subjective appropriation of Christ, or the indwelling of the Holy Ghost, as giving us the conditions or things of God, before there can be manifested by us the workings of a willing obedience in conformity with Christ: there must be inwardly the righteousness of Christ, before we can show outwardly the holiness of Christ: we must have the engrafting of principles which are superior to the world—principles which disclose what the world cannot teach, viz., that the world is not

our greatest good—before we can be raised in our emotions above the world:—principles which, having their foundation, not in the world, but in the spiritual sphere of God Himself, must needs have their validity when the world, and by consequence all its arrangements, shall have become annihilated by dissolution—principles, therefore, which necessarily link their possessor to the world of spirits, and associate him with the relations of immortality. "The world passeth away, but the word of the Lord (as engrafted in and giving form to the soul) endureth for ever," and giveth being for ever to its possessor.

Sect. V.—What Emotion constitutes Will.

Having thus discussed the question of emotions as the *foundation* of Will, the inquiry comes naturally to be into the causality under which will is formed—into the circumstances under which one emotion becomes will in preference to another; for, not unfrequently, a number of contending emotions arise simultaneously, each seeking for supremacy. If we are simply asked the question, what constitutes will? we answer, *a free emotion.* A free emotion! This we explain to be, an emotion which is not successfully interrupted or restricted by any counter emotion. Every emotion that arises in the mind, would of necessity become will, if there were no other emotion to interfere with or intercept the same. But it does not happen often, where moral and religious elements have due place, and proper operative power, within, that our inferior emotions are left in uncontrolled licentiousness? Let it be noted, therefore, that while will is, in fact, an emotion carried into the Ego, it is generally *a preferred emotion,* for all emotions do not constitute will; and if, for a while, there is a simultaneous contention of emotions, not one of them can be regarded as will: will is not found till one emotion obtains supremacy over the others, and these subside or give way thereto. Will, therefore, may be defined as *that emotion which obtains free admission into the Ego or soul.* Emotions, like ideas, as having place merely in the sensory, are strictly objective to the Ego, which is the pure soul-substance formed into a personality of knowledge.

The question then arises, Under what principle is it that one emotion is preferred to another—that one emotion becomes the will of the Ego, and that other emotions in connection therewith,

are rejected? Let us note the kinds of will that are possible, and our question will be readily answered. They may be classified into two inferior—the *animal* and *worldly* will—on the one hand; and into two superior—*moral* and *religious* will—on the other hand. The animal and worldly kinds belong, both of them, either to the category of Self-love, as regarding the interests of the *me*, or to the category of Sympathy, as regarding the interests of the *not-me*. The moral and religious are, each of them, counteractive or regulative of the animal and worldly emotions: the moral, as imposing restraints for the sake of harmony with the moral elements of the world around: the religious, as imposing restraints for the sake of harmony with the revealed arrangements, or believed requirements, of God. The animal nature is the Ego, as conditioned by its direct connection with a vital economy of body. The worldly nature is the Ego, as conditioned by its direct connection with the things of the world, through the body. The excitement of animal emotion, leading to animal will, arises from the presence of those elements which go to supply the wants, or gratify the conditions, of the Ego, as a carnal economy of thought. The excitement of worldly emotion, leading to worldly will, arises from the presence of those elements which go to supply the wants, or gratify the conditions of the Ego, as a worldly economy of thought. There must be such a state of the Ego, as a carnal economy of thought, on the one hand, or a worldly economy of thought, on the other hand, according as the conditions pertaining to the body, or those pertaining to the world, are carried in their respective representations thereto. Moral and religious emotion, we have said, interposes to counteract, or to regulate, the emotional tendencies of the animal or worldly nature. Moral emotion is that tendency, which arises from the presence of the idea of fitness or non-fitness of the carnal or the worldly element, to harmonise with a standard of moral fitness already acquired by the mind. Religious emotion is that tendency, which arises from the presence of the idea of fitness or non-fitness of the carnal or the worldly element, to harmonise with a standard of religious fitness already acquired,—that is, with a standard of the things of God, as received by the mind. When the moral or the religious emotion prevails over the carnal and the worldly, it is called moral will, or religious will, as the case may be. If the carnal emotion or the worldly emotion prevails, in disregard of the moral or the

religious element, it is called carnal will, or worldly will, as the case may be.

It is further to be noted, that in the case of man, to whom alone all these characteristics of will are found applicable, each sort must be regarded as *rational will.* We have seen, that the very foundation of reason consists in the capacity to apprehend the relations of the not-me, and that reason is simply the harmonising of our operations in subserviency to said relations. In man there can be no animal will, and no worldly will, and no moral will, and no religious will, but through an apprehension of the conditions of the not-me on the one hand, and of the conditions of the relations of the not-me on the other; and, through these, of the suitability of their application, according to a standard of suitability acquired. True it is, that all these characteristics of will are exercised through an apprehension of the conditions of the *me,* as well as of the *not-me;* but there is, in the circumstances, a peculiarity applicable to the circumstances of the *me,* which makes it tantamount to an apprehension of the *not-me.* The peculiarity is this; that the me of the present, and the me of the future, are not absolutely one and the same, as regards circumstantials. Hence, when we contemplate self under different relations of time, or place, or events, from the present, such contemplation is properly regarded as equivalent to a contemplation of the not-me. The capacity of apprehending self, in time, or place, or circumstantials, apart from the present relations, is obviously denied to the lower animals. As we have said, therefore, each of the characteristics of will referred to, does, in man, properly constitute rational will.

Having premised this much, we would now proceed to answer the question which is more immediately the subject of this section. And, before taking up the question of rational will, as just classified, we would take occasion to state, that in the irrational will of mere brute creation, there may be observed, not unfrequently, a collision or contest of opposing emotions. For instance, the tendency of the sheep is to wander into forbidden pasture, where they may more freely gratify their desires; but, warned by the presence of the shepherd's dog, the former emotion will generally give way to the latter. The emotion of the hungry dog is to eat food, if within his reach; but if a stick, in that case, is perceived as ready to fall upon him, the emotion of self-

preservation prevails. It may be laid down, therefore, as a general rule, that in the mere animal economy, wherever there are contending emotions, that one of necessity prevails; and the emotion which prevails is will, as having the strongest operative affinity, as an impression on the sensory. In regard to a man who happens to be dead to moral and religious restraints, the self-same conclusion holds good. That emotion, whether of a carnal or worldly nature, which happens for the time best to suit the animal or worldly craving, is sure to predominate as will. The fact of his being possessed of reason, does not alter this arrangement, if, in his case, is excluded the admission of moral and religious elements. Hence it is that the fear of punishment will act as a restraint upon many, when a higher motive fails to have a place in the mind. Hence it is, that whatever may happen to gratify a lascivious or covetous nature, are freely indulged in by many, only to the uttermost extent of safety. It will happen, independent of all moral and religious considerations, that cravings for animal or worldly indulgence will not unfrequently be controlled or denied, when there is an apprehension of danger attending said indulgence, and consequently, a corresponding emotion against it, arising out of said apprehension; or when there is an apprehension of another and a greater indulgence incompatible therewith, and therefore a corresponding emotion of higher power in its favour. In short, wherever moral and religious elements are set at nought, as counteractive of animal and worldly propensities, that emotion which for the time is strongest, will always come to prevail as will. When moral and religious considerations have full play, then it is obvious, that however many may be the contending emotions of the inferior nature, that emotion only can have place in the soul which stands in harmony with, and in subordination to, the demands of the moral or religious element; and if any, or all, the inferior emotions should, for the time, be subversive of true morality or religion, the emotion arising through the apprehension of this disharmony, is sufficient, in a well-regulated mind, to keep the same in entire abeyance.

SECT. VI.—VOLITION.

We have now pointed out under what circumstances will takes its rise, under what circumstances will has its validity, and

what are the general characteristics of human will. It only remains that we offer a few remarks, bearing upon the expressing of our will. The expression of will is termed *Volition*. There can be no volition without will, just as there can be no will without emotion; yet as there may be emotion without will, so there may be a kind of will without volition. Emotion, when pent up by some counter emotion, is prevented from becoming will; and what, in a sense, may be called will, when pent up by some interposing element, is, in the circumstances, obstructed in its utterance, is prevented from becoming volition. The inconvenience or disharmony of time, place, or persons, as related to the subject of utterance, is frequently sufficient to keep the utterance in check. Are we to be told, that in that case the will is not free? Never was there a greater mistake. *The will, as will, is always, and of necessity, free.* For, in the case referred to, what, after all, is the will? Is it not the prevailing emotion for the time? I may have a disposition to communicate a piece of information in the midst of a party of friends, but for the sake of an individual present, to whom it would be disagreeable, I am restrained: what is my will in this case? Is it not to restrain my communication in the circumstances? This will, therefore, is free: *its* inclination is carried out. The disposition to utter my tidings, is, in the particular relationship of the time, thrown back, till a harmony of circumstances is obtained.

The subject of the will is so very important, and its right treatment, in our estimation, is yet to be attended with such invaluable results, while so much has been said on it that is utterly untenable, that, for the further elucidation of the great question, which refers to the foundation and freedom of the human will, we are induced to depart for a little from the scheme which we had laid down for the limits of this production. We shall, therefore, briefly offer two dissertations,—one on the views of Mr Hume, since whose time almost nothing essentially new has been given forth to the world; and the other, on those of Sir William Hamilton, the latest authority of any note on the subject.[1]

[1] The Section, on the views of Sir William Hamilton, has been transferred, as a Chapter on Causality, to Book I. If read, however, after that which follows, it might be with profit.

SECT. VII.—LIBERTY AND NECESSITY (HUME).

Mr Hume says: "The *conjunction* of similar objects, and the consequent *inference* from the one to the other, alone give us the notion of necessity of connection." And with respect to the operations of mind, he says: "The experienced uniformity in human actions, is the source of all the inferences we form respecting them." It is obvious to us, that if we do not know in what necessity consists, we are not in a position to say whence it comes. We can scarcely speak of the relations of a thing, till we know what the thing is. Our author, indeed, says, that necessity consists in "constancy of conjunction." But the constancy of the same phenomenon appearing with the constancy of the same conjunction, indicates merely the constancy of the same causality, and gives no account whatever of the nature of the causality in itself, whether exhibited once only, or by the repetition of a thousand instances. We ask, what produces the constancy of the phenomenon under this constancy of conjunction? We allow that the *conjunction*, or, as we have usually termed it, the *contiguity*, of causal elements, is indispensable to causality; but if there were no inherent spring of movement in this circumstance—if there were no affinity manifested, as attraction or repulsion, betwixt the elements in conjunction, how could mere conjunction produce the effect? We find abundance of cases, where there is conjunction, and no effect follows. How, then, could an effect be said to be a necessity, arising from mere conjunction? Conjunction is simply an external relation. We call to mind that there is the *internal*, as well as *external relation*; the former expressive of conditions, as related to one another, independent of any contiguity or conjunction; the latter expressive of the kind of contiguity or conjunction which may happen to be established. And as the affinity which marks the internal relation cannot operate without the contiguity or conjunction of the conditions, as marking the external relation—which external relation is one of arrangement, devised by an intelligent mind, according to the known character of the respective conditions, as causal elements, purposely to obtain a particular result or phenomenon; and as, moreover, the operation of causality, when once the arrangement or combination of elements is effected, becomes then emphatically a thing of *law*, of natural

law, and THEREFORE A MATTER OF NECESSITY,—so *we define necessity to consist in that absolute and uncompromising operation, which arises from the affinity of conditions, brought into contiguity or conjunction.* Thus our author's "conjunction" is but an *accessory* element, and not the efficient cause, in the production of necessity.

As to our acquisition of the idea of necessity, we have to state, that this idea, like every other, is obtained in connection with our experience of external nature. The whole of our experience respecting the operations of material substance uniformly intimates, and the law of identity, or the principle of "non-contradiction," also intimates, that *the same conditions, in the same relationship, produce the same result.* Conditions and their relations may be changed: in that case, experience and the law of identity intimate, that the law of operation will be changed correspondingly. Hence the idea of necessity. It arises from the ascertained fact, that there is no arbitrariness in quality. We have said, it coincides with the principle of identity. We pronounce upon the identity of a thing, when we find the self-same conditions to be accompanied with the self-same forms. We pronounce upon necessity, because the self-same conditions, in the self-same relations, cannot but have the self-same powers. If quality were not determinate in its conditions and affinities: if there existed anything like caprice in matter: in short, if a thing could not be regarded as what it is, then we could have no idea of necessity. Necessity is the idea acquired from believing that *a thing is what it is.* Having ascertained the determinate character of the respective qualities of matter in any particular case, and having ascertained that affinity, and consequently operation, depends upon the kind of conjunction or local relationship of certain conditions, we need nothing more to certify to us the idea of a particular necessity in the circumstances. It is upon the knowledge of qualities, as having definite powers, and the relation in which they stand to one another, as having definite limitation, that science is able to predict the consequences which necessarily flow from certain combinations. Hence the statement of Mr Hume, that we draw our inference of necessity merely from a uniformity of conjunction, is obviously superficial, and utterly untenable.

As regards liberty, our author gives the common definition:

"A power of acting or not acting, according to the determinations of the will." We do not accept this definition. However generally received, we have no hesitation in saying, it assumes the very thing it is intended to explain. The *determinations* of the will! First, these are assumed: no account whatever is offered as to their formation. Second, no account whatever is offered as to the distinction betwixt volitions and determinations. They are tantamount to volitions. In strictness, no man can act contrary to the determinations of his will; but every man always, and of necessity, in conformity with these. A man may exercise self-denial, and do many things contrary to the inclinations of a carnal or worldly nature; but such inclinations are not properly his will, when superior motives have in him intervened to restrain them. The definition above given, says, that liberty is the power of acting as the will determines; but, if *action* is implied in the determination, what is this but saying, that liberty is the power of acting according as the will has the power of action? And, what is this but the assertion, that liberty consists in the determinations of the will? Then, the question comes to be, in what do the determinations of the will consist? Here we have received no information. For anything we are told, liberty may be anything or nothing!

We lay it down, as a maxim, which admits of no dispute, that wherever there is operation, there also is law. Hence there can be no operation of will, but in connection with law. It follows, then, that *before there can be liberty, there must be law.* Liberty can exist only because law exists: LIBERTY WITHOUT LAW, HAS NO MEANING. Law, in its widest acceptation, and as applicable to all departments and branches of science, is *the operation of determinate qualities in a particular combination.* Liberty is *the manifestation of law undisturbed*—undisturbed by the interposition of any foreign element, to interrupt or restrict, or in any way to modify, the operation. This definition of liberty, holds its validity, as equally applicable to the world of matter, and to the world of mind. In the world of matter, the character of material conditions, and their relationship, give the *law* of material operation, *i.e.*, the precise intensity and quality of force: in the world of mind, the character of mental conditions (ideas), and their relationship give the *law* of operation, *i.e.*, the precise intensity and quality of will. The relationship may be disturbed

by the interfusion of a foreign element, or some of the causal elements may have its conditions altered, or the character of their contiguity or combination may be altered: in that case, the relationship being changed, the law thereof must needs be interfered with. It is then that liberty is destroyed. Liberty consists not with any interposition to control or to modify the free operation of any definite constitution of elements. Liberty has nothing to do with the constituting of causes; it simply contemplates *entire want of interference* with cause, when once constituted: it requires that conditions, or causal elements, when once brought into a certain conjunction, as a causal economy, be then *left to themselves*, in free and unfettered operation, to produce the contemplated result. Liberty is the *free operation of the inherent relations of said economy*, there being no disturbing element to interfere therewith. The wheels, and other elements of a clock or a watch, are the causal elements; and, when properly arranged, and adjusted, they constitute a causal economy for the measurement of time. Leave the instrument in perfect freedom, and it will produce the phenomenon it is intended to display; but, allow a hair, or a little dust, to get in, and its operation will be either stopt, or considerably modified. Its liberty, as an economy, is interfered with.

What then is the distinction betwixt liberty and necessity? Necessity is the uncompromising and infallible determinateness of a certain effect, under the constitution of a certain cause. Where there is a determinate cause, there cannot but be a determinate effect. This is necessity. Necessity, then, pertains to the will of man! Yes, when causal elements (ideas) come together, there *must* be will, and will, too, in precise conformity to their arrangement in contiguity; for will is the result of a combination of ideas, and each specific will is the result of a specific combination. Of this we are as much certified, as of any truth in the universe at large. Necessity is necessity, simply as *law*, as the fixed principle of action, which cannot but manifest itself, *when* certain related objects are associated into combination or conjunction. Then, and then only, the question of liberty can come in. The question of liberty is this: Is such a causal economy *free to manifest its result*, without being in any way encumbered or compromised by the infusion of a modifying element? The question of necessity is this:

Has such a causal economy a particular constitution? then a particular result *must*, and *no other can*, follow from its operation. The question of necessity is concerned, when it is said, that a special and precise phenomenon must proceed from a special and precise cause. The question of liberty is concerned, when a special and precise cause is free and unrestricted, to produce its own phenomenon, and no other. Before liberty is possible, there must first be necessity: before necessity is possible, there must first be an economy of causality: before causality is possible, there must be an association of conditions: and, before a new association of conditions is possible, there must first be a rational intelligence. Reason is the law of harmony, or of adaptation, in the matter of association. *Conditions must first of all exist:* we are not concerned here to inquire *how* they exist; we simply take the fact, that we find conditions as causal elements in actual existence. These lie at the foundation of causality, so far as regards the subject-matter, or constitutive elements employed, while constitutive elements have their own inherent affinity, or essential principle of operation, according to the relation in which they may happen to be associated. It requires association only, to bring the affinity into operation. Necessity brings out a phenomenon in precise conformity to the association. Liberty is the free operation of that necessity.

It may be said, that if liberty hangs only on the back of necessity, that this is tantamount to a declaration, that all effects are first of all bound by the iron law of necessity. Whoever says so, speaks without understanding. We beseech attention to this fact. *Effects are necessary, when once causes have been constituted; but the constitution of causes is not always necessary.* We cannot be too loud, or too frequent, in pointing to this fact, in order to clear up, and set at rest, what has been made a most confounding subject. There is no absolute necessity for the many combinations which we form in the world, in order to the production of certain results. There is no absolute necessity for the precise alliance of certain ideas, out of which will is generated. There is no primary necessity for any specific association, whether of material conditions, or of mental conditions, saving only as the law of demand, in search of supply, requires. Here it is that reason should prevail. It is by reason, as the *law of harmony*, that we fit together joints, and sockets, and pivots, and

dove-tail one thing in precise adaptation to another, in the mechanism of any piece of furniture. Reason should also similarly prevail in the right association of all ideas; for, it has this as its peculiar privilege. What, we would ask, is the work of the carpenter, the blacksmith, or the shoemaker, but the associating of certain ideas in the execution of a purpose, out of which association, will is exerted, to make chairs, nails, and shoes? The province of reason is to have respect to the harmony of conditions, in due and proper relationship. The part of reason, therefore, is to exercise its preferential task in favour of certain ideas, to the exclusion of others, out of regard to suitability to an object; and, by using them in due order and harmony, as they are required, in furthering the purposes of life. It is to the *regulative* power of reason, in ordering a certain association of ideas, that all rational will is to be ascribed. Let it be seen, therefore, how the matter stands. There is no primary necessity for the formation of any particular will, further than reason, observing the law of harmony to an object in want, may happen to regulate the association or conjunction of ideas; but then, *when once the ideas are conjoined, the law of necessity requires that a certain will should follow.*

The character and position of liberty and necessity are therefore sufficiently obvious. Before either the one or the other can have any validity, there must be the institution of causality: they are simply characteristic accompaniments of causality. Necessity is the characteristic of an effect, as compared with its cause: liberty is the characteristic attending said necessity, when the operation of the particular cause is uninterfered with. As respects the formation of a cause, this can generally be termed neither a matter of necessity, nor a matter of liberty, but *a matter of propriety, i.e.* of reason, as something essential to the fulfilment of a purpose. All primarily depends on the formation of a purpose. For the sake of this purpose, such a chain of causality requires to be instituted, as shall go to effect it. Were there no purpose, there could be no causality, and, consequently, no liberty and no necessity whatever.

It may be said, there is a point which yet requires explanation. What is a purpose, and how is it formed? Is not a purpose itself a will or determination? A purpose is a desire excited by an idea fitting to be realised. A purpose, as *an*

absolutely primary will, cannot belong to man, but must belong to God. Man's purposes are convertible with man's wills. So far as respects man, we know that the causality, of which man is the author or creator, in the arts and accomplishments of life, arise from the purposings of his will; and we know that *his purposes arise from his connection with a world of varied conditions, existing independent of him, and on which he is dependent for his conception.* So far as man is concerned, therefore, we can point to the *fons et origo* of all his thinking and willing. Man's position is simply this: Given conditions, and the law of harmony for adjusting conditions, to establish a certain causality. Now, in regard to the Deity, we have no other means, and no other authority, to suppose differently, than the transference which this analogy must establish. What is the world as existing antecedent to man, and independent of man, but the effect of the Divine causality, established to answer a purpose. A purpose is the ground of the constitution of that causality whereby the purpose is realised. And now the question simply is, how comes the purpose to be formed? We shall answer how it is with man? Man has the conditions, as causal elements, beside him, as *things given:* he has also the law of rational intelligence, whereby he comes to perceive, that something, not yet manufactured, can be made out of these conditions; in other words, he has the power of *conception*, by means of the things given: he has also the law of morals, to see whether the concept, if realised, would be desirable or not. Now, here is the very point, at which will begins in the matter of purpose, the emotion in its favour arising from the apprehension of the *desirableness* of the object conceived, when reason or the law of harmony adjusts the conditions at hand, for the precise execution of the purpose. Thus we account for will as developed in connection with a purpose, and for the causality which arises in the execution of the same. We have only to transfer the illustration to the case of the Supreme reason. With Him there are eternal and uncreated conditions as the given elements of His being: with Him there is Supreme intelligence, in respect of the creations possible from these: with Him also is the law of right and wrong, under which a certain creation was a desirable object—an object therefore of His will, *i.e.*, a purpose: hence the world, with all its varied adjustment, to answer the purpose. We reflect on this theme with

all holy and humble reverence; and, we do submit, if it is the highest knowledge to become acquainted with God as the most desirable of all acquisitions; and, if we have the means of knowing how it is with the image of God, and can by induction apply this to ascertain how it is with the primary type; we have simply to suppose, that as the conditions of the Diving Being necessarily constitute His personality; and, as the intelligence of the Divine Being, as the mental reflection of said conditions, is necessarily absolute in respect of all that can proceed therefrom; so, His high and sacred will, as a will of perfect righteousness, necessarily exists in immediate subserviency to said intelligence. To this subject we shall recur in the proper place.[1]

[1] For many readers, the chapter on Causality, as discussing the philosophy of Sir William Hamilton, would have profitably been introduced here. Its reperusal at this stage, would assuredly be advantageous.

BOOK IV.

THE PHILOSOPHY OF THE ABSTRACT SCIENCES.

CHAPTER I.

THE NATURE AND GROUNDS OF ABSTRACT SCIENCE.

THE ascertainment of the true Philosophy of Abstract Science, depends upon the achievement preliminarily, of the true philosophy of mind. Abstract Science, like all other science, is in the mind; yet, unlike to other science, it is primarily manufactured by the human mind. Other science has its validity objectively, as the philosophy of God's world given for our learning: it exists as a philosophy of inherent relationships, independent of our mind, and becomes science to us, only when we have ascertained what said relationships are. Abstract science, again, as being a building by human intelligence, comes to have a validity objectively, only because it must have had a preliminary validity subjectively. It must first have been internally in the mind, before it could have been represented externally to the mind. The question then comes to be: whence are the abstract sciences derived; and how are they established?

SECT. I.—THE ORIGIN AND NUMBER OF THE ABSTRACT SCIENCES.

It will be remembered, that, in expounding the origin of our cognitions, we described perception, as being the foundation on which the exercise of the other faculties were dependent; and, that in the exercise of perception, we were indebted for our ideas to the external world; and, all this would, doubtless, lead to a confirmation of the famous maxim, *nihil est in intellectu quod non olim fuerit in sensu.* There is a certain amount of truth in the maxim. At the same time, as regards abstract science, and

the varied creations of conception, there is much in intellect, which may have no physical correlative in the world. How do we reconcile this? By simply pointing to the fact, that the causal elements or factors, on which abstract science depends, and out of which its philosophy, as an economy of inherent relations, is derived, are *certain accompaniments merely, or characteristics of matter.* Abstract science is that which has not real, concrete matter as its conditions, but certain characteristics, as *abstracted* therefrom. The abstracted elements are the factors of the science,—hence the name *Abstract* Science. For example, in taking up a material object, we find, it has configuration. We cannot look upon said configuration, without perceiving a surface, defined by a boundary-line, either straight or crooked, angular or curved, regular or irregular. The margin constitutes the *boundary-line.* It is an idea which, in outward representation, cannot be detached from material extension, in as far as it is a necessary accompaniment of extension, and has its validity established, only as depending thereon. But, then the mind can *abstract* said accompaniment, or characteristic of extension, and contemplate the same as an idea *by itself.* Said boundary-line, when regarded *per se,* must be considered as *length simply,*—length without breadth. Taking, then, this idea of a line, and representing it objectively, as nearly as we can, according to the idea,—taking cognisance of length only, and disregarding all idea of breadth,—we can make it an object of study, and introduce some new relationships. Regarding the end of a line, thus defined, as a point; and, consequently, regarding a point as a position which hath neither length nor breadth, we can draw a line from any one point to any other point. This being done, we can only speak of its *identity;* and, of identity, we can speak only in virtue of the properties which belong to it. The properties which belong to a line thus drawn, are the fewest possible which can be attached to an object. It is length merely; but then it is definite length. It is known by the preciseness of its length. And this is *all* its identity. We wish it, therefore, to be observed, that all that we can say to prove the identity of any straight line, for example, as thus abstracted, is its definite length —that it is the very line and no other; and that it is known, because it answers to the measurement of length which pertained *to it.* And having no other characteristic than that of length,

as defined by a certain measurement, there can be no other property whereby it can be identified.

Let it now be remarked that, if we can draw one straight line betwixt two points, having a certain intermediate distance, we can draw another straight line, having the same intermediate distance as the former. In short, we can draw one line precisely similar to another. What distinction are we to make betwixt them? There is no distinction. They are, each of them, length only, and precisely similar in length. The one may be interchanged for the other, and no alteration be known. They are two identities; and, if we could apply personality to them, the Ego of the one might personate that of the other. Still, they must have a relationship to one another. What is this called? *Equality.* Equality implies perfect sameness of condition betwixt the things compared.

But, further: if we may draw two straight lines perfectly equal to one another, we may draw many, *in infinitum.* Hence comes in the idea of *Numbers.* Numbers imply so many identities. Now, if we call identity *one,* the multiplication of one constitutes an extension of equality, and to this we give the term Number. Number implies the idea of *so many ones,* or *so many equals,* each element in the number being perfectly the same,—each being termed *one,*—each being simply a repetition of the *one.* When, therefore, we speak of five, or ten, or five hundred, it means neither more nor less than so many reduplications of that which stands as *one.*

Again: Out of the idea of numbers thus realised, we obtain the idea of *Quantity*—of abstract quantity. For, if we can draw so many equal lines, and make five or ten of them, or any number we choose, we can, in like manner, repeat so many *fives,* or so many *tens,* or so many *twenties:* in other words, we can have so many *aggregates of ones,* which *aggregates* are termed quantity: and they may be equal or unequal to one another. Hence, therefore, we can have a science of quantity (*i.e.* of aggregates of units), just as before we had a science of number (*i.e.,* of units simply). And, as we could invent and employ symbols, to represent any number of units, and thereby facilitate an understanding of their relations, in other words, facilitate the calculations of the science of arithmetic; so, in like manner, we could invent and employ symbols to represent quantity; and, by the

help of numerical symbols, any number of quantities, and thus facilitate an understanding of the relations of quantity; in other words, facilitate the calculations of the science of algebra. It is obvious how the Science of Quantity arises. There could be no algebra without arithmetic, just as there could be no arithmetic without equality, just as there could be no equality without identity.

But again: We may draw lines having a particular local relationship to one another, length being placed in such apposition to length as to represent length and breadth. In this way we obtain the idea of *space*. Space may be defined as *the negation limited by certain boundary-lines*. The science of space, then, differs from that of numbers and quantity, in this respect, that, while numbers have respect to *units* generally, and the relationship in which these might happen to stand to one another, as merely increasing or diminishing; and, while quantities have respect to *aggregates* of units generally, and the relationship in which these might happen to stand to one another, as increasing or diminishing; space has respect also to units, and to aggregates of units; but this must be with reference to *lines*. Now, if we call the science of space by the name of Geometry, this distinction will constitute two great divisions thereof. Geometry is the science which treats of the relationship of *lines*. In regard to arithmetic and algebra, it is necessary to employ symbols to represent the relations of unity, and the relations of the aggregates of unity; and these without respect to any particular identity or form. In regard to geometry, it is impossible to employ symbols, because respect is always had therein, to the local relationship of lines to one another. Geometry is founded upon arithmetic and algebra; and there could be no geometry without these. As arithmetic has respect to the numbers of the element abstracted, no matter what that element might be; so, as geometry is confined to the relations of lines, there is first a geometry which has respect to the relations of unity,—but of a special and particular unity, viz., that of *lines*,—and by said relations constituting length and breadth, or what we call *superficies*. Again, as algebra has respect to the aggregates of the thing abstracted, no matter what this might be; so, there is, in the second place, a geometry which has respect to the relations of aggregates of lines, —that is, the relations of superficies, constituting length, breadth,

and thickness, or what we call *Solids*. There is no ulterior relationship possible in that category, of which the line is the generic foundation, and linear configuration the characteristic, throughout all the particular gradations.

But, having obtained solids, there is a special attribute which we may apply to them, viz., *motion*, which lays the foundation of a new science. We deal with motion precisely as we deal with configuration. We cannot, indeed, objectively represent motion abstractly, and, it is to be noted that, in all strictness, we cannot represent form abstractly, for there is no such thing as an actual line drawn, which is literally length without breadth; but we can represent motion by means of an actual object, just as we represent figure by means of an actual object; and, having done so, we can, out of said motion, construct a *science of motion*, irrespective of the object moved, just as we represent a *science of form*, irrespective of the configured object. As out of the science of form, we have *space;* so, out of the science of motion, we have *time*. Let us observe how time is evolved.

In the lines of space there are those points known under the names of locality or place; and the intermedium between the points or places, is called their *distance* from one another. When an object, therefore, moves a certain distance, that is, alters its relative position in space, by transition from one point or place therein to another, there is a sensible *duration*, as we term it, betwixt the one event and the other: there is a sensible state of existence, as lying between the fact of its position at one point, and the fact of its position at another point. Mere existence, that is, eventless duration, is what is predicable of the *fixities* of space. Something more is necessarily predicable of what may be called the *eventualities* of time. When motion is introduced, and therewith, of course, the transition of an object from one state to another, or from one point to another, mere duration, or a state of existence, comes to be represented as *Succession*. Succession merely marks a difference in the mode of existence; and, that kind of difference which is described by the words, "beginning and ending," or, "commencement and termination." This kind of duration, or state of succession, we call *Time*. Time, considered by itself, is the abstraction of that sort of accompaniment which attends the being of an object in its lapse, transition, or interval, betwixt any particular condition or posi-

tion, and another. Both space and time may be regarded by themselves; but still, they are necessarily abstractions, having their elements or factors as necessarily derived from material representations: they, therefore, constitute branches of the abstract sciences. Space by itself, is not aught that is material, but is properly defined as *the interval of form, under certain boundary-lines.* In like manner, time by itself, is not aught that is material, but is properly defined as *the interval of transition, under certain points of space.* Space denotes a characteristic of existence, which, being simply static, implies *fixity:* time denotes a characteristic of existence, which, being dynamic, implies *change.* Hence, as we have said, the element of succession belongs of necessity to time, while it does not belong to space. It is this element which brings in matter of special consideration, and which gives to time, as an abstract science, objects of independent calculation. It is obvious enough, that since space depends for its scientific development upon the abstract sciences, which have precedence thereof; and since time depends for its development, upon the preliminary achievement of space; so without the sciences of identity, and equality, and number, and quantity, and space, we could not have the science time. And, while each of these sciences is consecutively dependent upon that which immediately precedes it, it is also clear, that the line of demarcation which separates one science from another, is, on the one side, the exhaustion of all the relationships which are possible for that element, which is the generic foundation of a science; and the introduction, on the other side, of a new element thereon, whose relationships may be similarly exhausted for a new science. It is obvious enough, then, that while the science of time is developed upon the basis of space, by introducing upon solids, as the ultimate relation possible for space, the element of motion; the science of time has been regarded as the very last of the abstract sciences; and, for this reason, that when we have exhausted all the relations of motion, there would seem to be no other direct attribute which we can engraft upon motion. Motion has been thought the ultimate accompaniment of created things.

SECT. II.—ON INTELLECTUALISM, AS AN ABSTRACT SCIENCE.

We are persuaded, the process goes on still further than this; and we venture to posit *Mind*, as assuredly an object of abstract science, as much as those which have preceded. Now that we have got motion, we have but to introduce a new category, wherein motion may function, viz. intellect. We have difficulty in representing the relations of form abstractly, which comprehend all the calculations of statics, and we are under the necessity of doing so by means of material objects; and we have equal difficulty in representing the relations of motion abstractly, which comprehend all the calculations of dynamics, and we find the necessity of doing so by means of material objects; and we have still more difficulty in representing the relations of mind abstractly, which comprehend all the calculations which foreshow the phenomena of consciousness; and we find the necessity of doing so by means of living objects, possessing also the characteristic of intellect. We are prepared to show, that there is a science of mind, as definite as the science of mathematics or of mechanics. If not so, then the operations of mind must be thrown out of the field of science; for, what is science, but the knowledge of effect, from the knowledge of the constitution of cause; and said knowledge of effect, of necessity, rests upon the fact, that there is an inexorable law of nature, which, without exception, in all departments of being, must produce a consequence in precise conformity with its cause. We hold, therefore, and are prepared to maintain, that when we have achieved a science of force, as a matter of abstract calculation, we are in a position to describe the science of mind, as a matter of abstract calculation. Let it be observed, that we do not say that we shall be able to predict precisely what may be the volition of this or of that individual: with this we have nothing to do in abstract calculations; but we do say, that if the science of mind is as we have endeavoured to describe it—if the impressions of an economy of form, and its operations, are transferred into a new ground, which exhibits the phenomena of sensation, the forms under which are termed ideas; and these, again, into another new ground, which exhibits the phenomenon of consciousness, when the same forms are termed cognitions; then, upon certain premises being given here, we can as accurately find the conclu-

sion therefrom, as in any other department of thought. It is but the science of force under a new economy of substance, whose phenomenal representation is consciousness. The science of mind, therefore, when understood, will come to be a matter of abstract calculation, as much as the science of space or of time. That mind is absolutely the last of the abstract sciences, there can be no question; because, when we have exhausted all the relationships belonging to it, there is no other category we can by possibility think of, which can be superadded thereto. The abstract science of mind is, strictly speaking, the science of logic in its loftiest department; for, what is logic as a science, but a knowledge of the relationships of ideas, and of the phenomena or conclusions which arise, as the consequence of said relations. There are many departments belonging to the territory of logic; because, wherever the laws of reason are in operation, there logic must needs be exercised. Logic is the science of the laws of reason; and, assuredly, there is no higher department of thought, than when the phenomenon of mind itself, as contradistinguished from the phenomena of matter, are the elements of consideration.

At the same time, it is to be noted, that under the category of mind itself, there is a variety of departments, the first of which may be described as simple sensation; then that which is marked additionally by consciousness; and this of the relations of the *me* only, on the one hand; and then of that which is marked by a still farther accession, a consciousness of the relations of the *not-me* on the other hand; and, as therewith necessarily introducing the department of morals. And there is still a higher department, to which it is possible to ascend through this, and which itself is doubtless marked by a variety of sub-departments, the lowest of which transcends that of the present constitution of human beings; but which, whatever be the grand scale of order, rests upon one generic element, whose particulars are all comprehended in the highest and ultimate exhaustion of all. To this branch we shall proceed when we come to the philosophy of theology.

SECT. III.—THE CAUSALITY OF THE ABSTRACT SCIENCES.

As regards causality, in connection with the upholding of the abstract sciences, we have already intimated, that its function is performed, not in the external world of matter, but in the internal world of mind; and they have thus manifestation externally in the material world, first of all from the intelligence, by which they have been abstractly wrought out or manufactured, and thence may be acquired subjectively, by those capable of an acquaintance with them. We cannot too frequently repeat, that *all science is necessarily in the mind.* It is *primarily* constructed there: it is *secondarily* only in the external world, being transferred from mind thereunto; and there it stands as philosophy, which is the objective counterpart of science, as the knowledge of inherent relationships subjectively conceived; it is thence apprehended by learners, and when learned, becomes science to them,—when correctly ascertained, as the understanding of the external processes actually going on, they are said to have achieved the science of that, whose philosophy had existed independently of them: they realise the true philosophy. The conditions of true philosophy have had their existence since man came upon the stage of being; but man has never been able to discover them. They have been operating according to that conjunction in which the great Architect of nature had originally placed them, and operating with perfect preciseness and freedom (*i.e.* without restriction from foreign elements, where none were permitted to appear); and all had their *original construction*, as abstract science, if without offence to His sacred name, we may describe the perfect calculations of the Deity, when they emanated from His mind, as concrete realities, in absolute exactness, and complete harmony of relationship. The world, in all its determinate evolutions, is but a transcript of the universal science primordially constructed by the Creator, in His own mind.

Now, as regards human intellect, so beautifully adapted by the Creator, for the acquisition of Divine relationships cosmically manifested in perfect adjustment, and thus made capable of learning, and of mastering Divine science; the world, as a transcript of the Creator's mind, is the grand source and direct fountain of ideas, and therefore of new conceptions, and therefore of all our knowledge. It is in virtue of the mental furniture

acquired from the world, by the mental instrumentality, with which, in our constitution and connection with the world, we are equipped, that man himself is able, seizing upon certain *abstracted* elements, to set forth their various possible relations; and, having exhausted these, to superimpose a new condition, and to set forth all the possible relations thereof in like manner; and, so on to extend and elevate the grand range of science, till we come to that category or quality, beyond which there is no further procedure.

How the elements function, whereby the conclusions of abstract science are established, it is not very difficult to show. For instance, when *two* and *six*, as distinctive and well-known factors, come together in the mind, they function differently, according to the *relationship* in which they stand to one another, in contiguity or conjunction. If they are joined for the purpose of addition, their causality necessarily effects an increase, making the conclusion *eight*. If they are joined together for the purpose of subtraction, their causality, as being a different relationship, necessarily effects a diminution, making the conclusion *four;* for the subtraction is the withdrawal of identities. If they are joined for the purpose of multiplication, this relationship, in the causality, makes the conclusion to be *twelve;* because the number twelve marks the relation expressed by six twos, or two sixes. If they are joined for the purpose of division, causality equally requires the conclusion to be *three;* because the term three expresses the relationship of six, when put into two divisions. This difference in relationship, will bring out difference in result, even if the conditions remain the same; and, of course, if the conditions or factors are changed, the result is further correspondingly changed. Precisely in this way it is that we come to agree upon, and to account for, all those conclusions which are commonly termed "necessary truth." It is no unusual thing to hear of "eternal verities such as were never made, nor can be destroyed, nor cease to be,—as for example, that equals added to equals make equals." Such statements, however, are made loosely, and in forgetfulness of the fact, that truth is always and invariably a phenomenon; and, therefore, a *conclusion*, dependent upon a particular conjunction or combination of conditions. *There can be no truth independent of the conditions out of whose combined relationship it springs.* There can be, therefore, no eternal verities,

unless the conditions and the relations in which they stand, as producing the verities, are also eternal. That there are eternal verities is not to be questioned; but then they are the essential conditions of absolute existence. As regards the truths of mathematics, and of necessary truth generally, it is obvious that, when once the conditions are accurately acquired by the mind, and the relation in which they are conjoined perfectly understood, the same conclusion must, in similar circumstances, force itself before intellect, which has no power whatever of making it different from what law compels: it cannot alter, it has no option to modify, what is presented to it. Hence it is, that truth is one, admitting of no deviation whatever. It is a rule, to which there is no exception in the sphere of matter or of mind, that *similar conditions, in similar relations, give forth similar results.* A knowledge of truth is but a knowledge of phenomena; and the great point is, to be able to verify the phenomena, by an ascertainment, in the first place, of the conditions, as factors; and, in the second place, of the relations in which they stand to one another. It is thereby that we can discover what is truth, properly so called, from what may be imposed upon us, but falsely, under that name.

CHAPTER II.

KANT ON SPACE AND TIME.

Sir William Hamilton says, "We regard as conclusive Kant's analysis of Time and Space into conditions of thought." What is the nature of this analysis? Kant denies that space is "an empirical intuition;" and this, on the ground that, before certain sensations can be referred to something external to us, the representation of space must, for this purpose, already be at the foundation, and cannot be borrowed from the relations of the external phenomenon by experience. Kant then arrives at the conclusion that space is a "pure intuition," "an intuition *a priori*," "the subjective condition of sensibility," "the form of all phenomena of the external senses, as given in the mind previous to all real

perceptions." Hence he affirms, that "objects in themselves are not at all known to us;" and that, what we term external objects, are nothing else than "mere representations of our sensibility, whose form is space," but whose true correlative, that is, the thing in itself, is not thereby known, and cannot be.

In like manner, Kant denies that time is an "empirical conception, deduced from experience;" and this, on the ground that "simultaneousness or succession would not even come into the perception, if the representation of time did not *a priori* lie at the foundation." All reality of phenomena may disappear, but time itself, as the general condition of their possibility, cannot be annihilated. Time is, therefore, "a given necessity *a priori*," a "pure form of sensible intuition," "the form of the internal sense," that is, of the intuition of ourselves and of our internal state, "the formal condition *a priori* of all phenomena generally." Hence he affirms, that the things we see are not, in themselves, what they are taken for—that what objects may be in themselves, separated from our sensibility, is quite unknown to us—that we can be acquainted only with our own mode of perceiving objects.

Such is a resumé of Kant's analysis in respect of space and time. He further thinks that he disposes of the doctrine that space and time are the conditions of things in themselves, and in themselves, therefore, objective, by asking whence we take the propositions of geometry, which, he affirms, are attainable only through intuitions *a priori*. Again he says: If we consider space and time as properties, which must be met with in things in themselves, and reflect upon the absurdities in which we find ourselves involved (inasmuch as two infinite things remain over, which must not be substances, nor even something really adhering to substances, but still existing, nay, the very condition of the existence of all things, even if all things were annihilated), we may well not impute blame to that good man Berkeley, when he degraded bodies into mere appearance. In fact, our very existence would be changed, with it, into a mere appearance, an absurdity which hitherto no one has been guilty of. In conclusion, Kant asks, with what right we can remove the conditions of time and space from our cognition of God, as an object, when we had previously made both as the forms of things in themselves,—the conditions of all existence in general?

The secret of Kant's conclusions, in respect of space and time, is, that he lays it down *a priori* as granted, that space and time are the very conditions of existence—conditions without which, as preliminary elements, there could be no existence—conditions which must needs have their validity, even if all things were annihilated. This is his primary foundation: his logic rests upon this. We do not grant this dogma. On the contrary, we are prepared to maintain, that *if all things were annihilated, space and time would be annihilated too.* The very notion of space implies *limitation, in respect of form;* and the very notion of time implies *limitation, in respect of transition.* If all things were annihilated, we necessarily take away all form; and if we take away all form, we remove all limitation; and if we remove all limitation, we destroy space: we come into absolute vacuity; we realise the idea of infinity,—an idea which ought never to be confounded with that of space; for infinity is *absolute negation,* while space is *negation defined by boundary-lines.* Again: if all things were annihilated, time as well as space must be annihilated; for time is dependent on space. If all things were annihilated, there could be no transition, no succession of one object with respect to another; for there would be no object in being,—all would be perfect emptiness, nothingness, non-beingness. Under an entire annihilation, there could be neither space nor time.

Kant, taking it for granted that space and time must needs be "*a priori* conditions of existence," naturally transfers said conditions to the category of mind, as pertaining to mind only, and as of necessity inherently characterising the primary and essential form of the soul; for where else could said conditions have a standing—an *a priori* standing, when the contingent things of the world were annihilated? But we deny *in toto* any such *a priori* form; we deny all necessity for the pre-existence of such conditions for the soul: we hold that they severally rise up into cognition, as the necessary consequence of the *forms* and *activities* of creation. We can say what space and time are: we can define them: we can say upon what they are grounded, and how they are manifested: we can state the principles upon which we subjectively realise them, and why it is that they are necessary conditions of our thinking. If it be remembered that there can be no thought without form, and that all form gives rise to,

and implies space; and if it be remembered that there can be no thinking without motivity, and that all motion gives rise to succession, and implies time,—it follows, of course, that all thinking must needs be characterised by space and time.

Kant denies that space and time are empirical cognitions, derived from experience, on the ground that the representation for space and time lies already at the foundation. But we have seen that this is just begging the whole question,—begging, as a fact, what does not exist as a fact; and, therefore, laying a false foundation, on which, of necessity, is reared a false superstructure. He has blinded many followers by assuming an unwarrantable *datum*—a datum which has been thoughtlessly yielded; and, when yielded, has brought perplexity on the whole question of philosophy, and has defied philosophers logically to extricate themselves, and logically to get into the region and freedom of common sense. We hold that form is the source of our idea of space, and that motion is the source of our idea of time; that both have an objective and independent validity in the world, irrespective of our minds; and that we have the subjective acquisition of these, through our dependence on the world for our ideas. We therefore point to the source of our cognition of space and time, as lying in those inseparable adjuncts, or necessary accidents (form and motion), pertaining to creation, which must needs be realised as essential parts of our experience.

As to our author's question, respecting the propositions of geometry: whence come the intuitions of space therein constructed, if not from the *a priori*, self-contained capacities of the mind? We answer, *precisely* as all other conceptions are derived. We make no distinction whatever as to the processes which respectively belong to mathematics and physics as objects of science. All is dependent on the primary exercise of perception, without which we could fundamentally receive no forms, and therefore have no notion of space, or indeed of anything else.

As to the absurdities in which, Kant says, we get involved, by considering space and time as properties belonging to things in themselves, they are described as being, first, two infinite things necessarily existing; second, as being neither substances, nor adhering to substances, yet still existing; third, as being the necessary condition of existence when all things are annihilated.

We think we have fairly met these alleged absurdities. First: *Space and Time are not two infinite things;* in as far as every space and every time are particulars, and necessarily each bounded by limits more or less remote. Second: *Space and time are not indeed substances, but they are the necessary accidents of substance:* they are necessary accompaniments "adhering to substances, yet still existing." Third: *Space and time are not the necessary condition of existence, when all things are annihilated,* for both are lost in infinity—in absolute negation.

Kant refers to the idealism of Des Cartes and of Berkeley, the former of whom, he says, "states only one empirical assertion as undoubted, viz., 'I am;'" and the latter "declares space, with all the things to which it adheres, as inseparable condition—as something which was impossible in itself—and, consequently, also the things in space for mere imaginations." He affirms that "the dogmatical idealism of the English philosopher is inevitable, if we regard space as a property which is to belong to things in themselves; for then it is, with all to which it serves as condition, a nonentity" (p. 184). A wretched conclusion! We hold, with Berkeley, that space is impossible without some positive existence—that space is inseparable from the condition of things; because, wherever there is condition, there is form, and form is the foundation of space. Surely, therefore, it is obvious enough, that if we have evidence of external things, we have evidence also of space. The things of the world are not dependent upon space, but space is dependent upon them. The proof of an external world is wholly irrespective of space. And here lies the inconsistency of Berkeley, in after all constituting space as the condition *a priori* of existence, instead of making it a condition *a posteriori.* Under the *a priori* hypothesis, he was far more logical and philosophical than Kant himself; for if space is to be regarded as the vessel, so to speak, in which the world is contained, and if said vessel by itself is purely and exclusively in the mind, why, of course, all that it contains must be purely and exclusively in the mind. The followers of Kant have never been able to get over the difficulty of a pure idealism, which attaches to his philosophy. For while positing, first of all, as a *datum* not to be questioned, that all things are contained in space; and then placing the forms of space in the mind, and in the mind only; assuredly, as the external world can only exist

in that wherein it is contained, stern logic reduces the external world to a pure idealism! And how has it fared with the Kantian philosophy? The external world, in the system of Fichte, waned into a world of shadows, projected from the intelligent Ego! According to Schelling, space and time are the first and purest reflex of the absolute, in the ideal and real respectively, which, he says, are eternally opposed to each other, yet eternally one! Nature, as if cast at hazard into void space, by and by presented the countenance of Deity emerging in every individual form; and life, the power of Deity, everywhere felt. With Schelling, there was neither subject alone, nor object alone, but *subject-object*. His philosophy directly led to the several developments of pantheism, set forth in the works of Oken, Hegel, and others. And thus the philosophy of Germany, from the time of Kant to the present day, as starting from a fundamentally erroneous principle, has, after floundering into every possible extravagance, come for the present to subside into the attitude of a humbled and helpless quiescence.

CHAPTER III.

ON THE VIEWS OF PHILOSOPHERS WITH RESPECT TO INNATE IDEAS, AS THE SOURCE OF NECESSARY TRUTHS.

SECT. I.—THEIR A PRIORI EGO UNWARRANTED.

WE have no hesitation in pronouncing the philosophy which institutes a distinction and discrepancy of modes, whereby we arrive at truth, as essentially unsound: we have no hesitation in affirming, that the process, whereby we declare a relationship in the material world to be true, is in no respect essentially different from that whereby we declare a relationship in geometry, or any other branch of mathematics, to be true. Hume as well as Kant, Reid as well as Cousin,—the philosophical school of this country as well as that of the Continent, require fundamental correction here. Hume speaks of "the relations of ideas" as "discoverable by the mere operations of thought, without dependence on what is anywhere existent in the world." Kant's system is mainly founded upon the doctrine of "pure cognitions *a priori*," as well

as upon what he calls "empirical cognitions." Dr Reid tells us, that "necessary truths cannot be the conclusions of our senses; for our senses testify only what is, and not what must necessarily be." Sir William Hamilton says: "It is creditable to Reid, that he perceived that the quality of *necessity* is the criterion which distinguishes *native* from *adventitious* notions or judgments. Leibnitz (he adds) has the honour of first explicitly enouncing this criterion, and Kant of first fully applying it to the phenomena." The eclecticism of Cousin is on this point chiefly derived from the scheme of Schelling. "Ideas (he says) are thought in its natural form: ideas are the proper objects of philosophy: in them philosophy has its world. Do not for a moment believe (he says) that ideas are the representatives of other things. Ideas represent nothing, absolutely nothing, except themselves. Ideas have but one character, viz., that of being intelligible: I add, that there is nothing intelligible but ideas. The senses are only the exterior objects on which they fasten themselves." In short, the doctrine of native or innate ideas, apart from, and independent of, those arising from our experience with the world, is maintained in various shapes by most philosophers. THE AXE MUST BE LAID TO THE ROOT OF THIS FALSE GROWTH. Here is a fundamental error, which disfigures the best philosophy we possess. Not one among all these philosophers has attempted to disclose under what circumstances native or self-possessed ideas, independent of the external world, have their being. They have not pointed out the grounds of their existence, nor the principle of their operation: In short, they beg the question of necessary truth, as a *postulatum* for the soul. The most recent investigations of philosophers in this country have done nothing whatever to place philosophy, as a science, in harmony with the convictions of common sense. Professor Ferrier gives out, as the canon of all philosophy, "Affirm nothing except what is enforced by reason as a necessary truth;" and tells us that the scheme of philosophy, which he has sought to expound, "starts from a single proposition, which (he holds) is an essential axiom of all reason, and one which cannot be denied without running against a contradiction." He allows that "everything hinges on the stability which belongs to this proposition. If it fails (he says), the system entirely falls; if it stands, the system entirely succeeds." And what is this all-important dogma which, in his estimation, is the

support of all necessary truth? Why, this: that "Intelligence must have some cognisance of *itself*, as the ground or condition of its knowledge." He considers this proposition to be something tantamount to an axiom; and all his laboured attempt to build up a scheme of idealism, after a mathematical fashion, is made to hinge thereupon. Now, so far from being an axiom, we regard the proposition as at once complex and essentially unsound. First of all, two things fundamentally different seem to be confounded, viz., making *self* the *ground or condition* of knowledge. The *ground* of knowledge is one thing: the *condition* of knowledge is another thing. The former has respect to the substantial element in which our knowledge rests; the latter has respect to the characteristic qualities which distinguish our knowledge as such. Secondly, that, by the terms "Intelligence" and "itself," *self* is meant as apart from its knowledge, there can be no question; for he asserts that "its apprehension is essential to the existence of our and of all knowledge." Did it ever occur to this philosopher to consider, whether there is such a thing, or can be such a thing, as a *self*—an intellectual self, apart from knowledge? But, thirdly, if the proposition has any meaning, it affirms that the knowledge of the *not-me* can be realised only through the preliminary cognition of the *me*. Now, instead of yielding this, we hold that a dictum in philosophy more demonstrably false was never propounded; and, upon the principles we have laid down, they issue in self-contradiction. Not only is the dogma contrary to all experience, and contrary to all common-sense convictions; but, if it is a truism that intelligence implies a self, it is a contradiction to separate them. And what, after all, does this scheme of Professor Ferrier achieve? He arrives at the famous conclusion, that it is "under no obligation to explain the origin of our knowledge." How could it, when he posits that strange entity, "self," as the foundation, and, indeed, almost the fountain of all thought! Self! what it is? whence it comes? how it stands? what its relationship with objective existence? or what objective existence (if any) is,—his philosophy can give no account! And is the philosophy of Professor Fraser, as following in the steps of Sir William Hamilton, in any degree more satisfactory? To us, none whatever. He propounds what he terms "a system of insoluble realism." Insoluble it must be, seeing he also posits, as his foundation, a self-contained

and self-conditioned *me*, having inherent powers of reflection apart from "real existence," and from which alone all necessary truth springs, as being the independent source of all our "irreducible beliefs." The philosophy, indeed, which is presently taught in our schools, has gradually shifted from the views propounded by Reid, who made no attempt at scientific exposition, to those more technically elaborated by Kant, to whom the features of the present very unsatisfactory state of philosophy are mainly to be traced.

It is to Kant, therefore, that we are to look for the most refined attempts to trace the origin of necessary truths to the native and inherent prerogatives of the soul, as independent of the world. To follow him through the course of his ponderous dialectics, requires some amount of patience; and to drag the reader into these, is not necessary. Let us observe, that Kant (and the Scottish philosophers, with slight modification, have vitiated their school with the same principle) lays at the foundation *a transcendental Ego or unity*, regarded as absolute substance, absolute simplicity, absolute personality, whose characteristic he depicted as pure reason, and whose province is to bring forward ideas in their absolute totality. This transcendental Ego, having its pure reason, he holds, exhibits *intuition*, when in contact with the external world. In intuition, the mind is regarded as simply the passive recipient of external being; and having two inherent forms, called *time* and *space*, in which external objects are received, we can therefore say nothing of external objects, as *noumena*, or things *per se;* but only as *phenomena*, or appearances. It is obvious, that the Kantian scheme of mind, respecting "intuitions," must fall to pieces, when it is discovered, as we have endeavoured to show, that *space and time have an objective validity, independent of mind;* and that the subjective realisation of these ideas is entirely dependent upon the forms and transitions characteristic of things in the external world. We have no hesitation in characterising Kant's theory of pure reason, as a theory of pure fiction; and this notwithstanding the phalanx of noble names, which have more or less given in their adherence to it. Indeed, irrespective of the complexity which characterises, and the confusion, more and more confounded, to which it has led, and the *mare magnum* of irreconcileable contradiction and jumble into which it has plunged his followers, and

out of which there is no rational, no logical escape, if once this fundamental, free, transcendental Ego is admitted, it does occur to us, that the *a priori* power of cognition, which is that set forth as the attribute of pure reason, presents an aspect which bids defiance to the inlets of science. Kant attempted something like a scientific representation of mind: we hold that, on Kantian principles, a scientific representation of mind is a contradiction in terms; for he grounds said representation on a primary datum—a thing taken for granted, which no one is in any way constrained to grant, viz., that the mind has certain absolute cognitions of its own, purely *within itself*. Such a fundamental and governing principle, as thus asserted, is neither more nor less than a *petitio principii*—a begging of the whole question. It gratuitously puts out of reach the question of causality. It posits this question, the very question which settles all scientific investigation, as utterly beyond the power of research: its very fundamental principle, is to accept mind and will as the very first facts, whereon all further speculation is to rest, and professes to know nothing as to the origin or generation of said facts. It implies and supposes the individuality of the soul, as furnished apart from, and independent of the body, wherewith alone its operations are experienced, as developed and enlarged; and wherewith alone its connection and its consciousness are known. It speaks of the mind as "supplying ideas from itself," while we ask in vain for any *modus operandi*, in the execution of this office; and in vain, for any principle in which its alleged hidden repositories of thought are disclosed to itself. His logical "Paralogisms" and "Antinomies" of pure reason, under which reason is made to contradict itself, are neither more nor less than huge bugbears, whose roots, being false, render the branches thereof inconsistent with itself. Did the limits we have prescribed for this volume permit, the proof of our assertion could be readily given in detail. The demon which haunts us everywhere, in the perusal of Kant, and from which Kant shrunk back, is the non-identification of the composite, the variable, and the shifting, with a constant unital principle. Hence his distinction—a distinction wholly aside from all experience—betwixt a *pure I* and an *empirical I*, as if man consisted of a double personality, of which he has not even the shadow of evidence. Kant, indeed, says, that whether we take the propo-

sition, *I think*, as analytical or synthetical, that we must needs come to the pure transcendental I. If analytical, he holds the pure I as given in the proposition: if synthetical, he holds it as the goal to which we must come. In the former case, we say his pure I is a pure *petitio principii*, wholly unwarranted—a gratuitous invention, not contained in the proposition as an absolute datum. In the latter case, we must regard it as an illustration of the *ignoratio elenchi*, in as far as, synthetically, there is absolutely no means of proving the existence—no means of evidencing the reality, of this transcendental I.

SECT. II.—THE FORMATION AND CONSTITUTION OF THE EGO.

Kant asks, unless you place a pure I at the foundation, in what way can you account for your empirical I—the I of experience—the I which is constantly shifting in semblance and character, in nature and action? We answer, as we have no grounds of personality from a transcendental point of view, but have direct experience of personality from an empirical point of view; and further, as the hypothesis—*mere hypothesis*—of a transcendental personality, is attended with very weighty objections, and as its origin lies wholly in the region of the unknown, while the fact of an empirical personality, and its origin, lies within the range of our experience, *we can account for an empirical personality of intelligence, upon the grounds of a physical personality, in connection with the external world.* We have simply to posit, in direct connection with our physical economy, a new platform of substance, in itself naked and empty, yet receptive of representations, and therefore susceptible of being replenished; and whose characteristic is *consciousness*, as not only marking the disturbance to which it is subjected, when new forms of thought are carried thereto, but also, as exhibiting the quality of conscious significance under said disturbance. Having laid down the principle of a junction of soul-substance, as possessing the quality of intellectualism, with a certain quality of cerebral substance in the varied composition of the brain; and holding said intellectual substance to be in itself otherwise unconditioned, yet receptive of the representations transmitted from physical conditions, we are thus able to account for the origin of the intellectual personality; and in all cases, in perfect harmony with the physical economy, as indeed must be, seeing it is

regarded as dependent thereon; and in all cases, in conformity with the training experiences of the creature, as likewise indeed must be, looking to the modifying power of these in regulating the tendencies of existences. We can, therefore, so far sympathise with the view of Aristotle, who compared the mind to a sheet of unwritten paper. Professor Sedgwick, in his discourse on the Studies of the University, says, "Man's soul at first is one unvaried blank, till it has received the impressions of external experience." Professor Whewell says, that "this modern image of the mind, as a prepared blank, is well adapted to occupy a permanent place in opposition to the ancient sheet of white paper." We have already expressed our views on this subject, we trust, with sufficient clearness. We can only here repeat, that we regard the substance of the soul, as in itself primarily naked or empty, having the attribute of intellection, as its phenomenal quality; and, as being empty, therefore of necessity without personality, or aught to give it a self-operative character in itself, and realising personality only in virtue of the particular conditions of which it is receptive, and wherewith it comes to be filled, through its conjunction with the physical economy; until, by a training in the revelations of the book of grace, as well as those of nature, it ultimately stands forth, shaped after a glorious pattern, fitted for instalment into a nobler sphere.

The present sphere of material being is the sphere of soul-formation. We believe the first dawn of mind consists in sensation merely, as the expression of material states upon the sensory, ere the foundation of an intellectual Ego is laid. There is, therefore, according to our view, no such thing as a soul coming into the world with self-contained ideas of its own. It is dependent upon two things for its ideas: first, upon the external world, as containing in itself the general economy of all cosmical cognition; and, second, upon the internal organisation, as the source of disposition, and which is variously adapted to receive all representations, and to analyse and combine them in the processes of generalisation.

We hold that this view stands in harmony with all the facts of our experience, and with the whole analogy of nature in the formation of individualities. What says *analogy?* This much, that in the formation of the organised individualities of the

material economy, there is, first of all, the unorganised general substance receptive of the conditions of organisation, and through this, acquiring a distinctive individuality, which otherwise it does not possess. In the vegetable world, *e.g.*, the crude substance of the soil becomes converted into a cambium or plasma, upon which the formative action of vegetative cellular forms are impressed. In the animal world, after a similar manner, the nutriment received becomes a lymph, or plasma, in the blood, receptive of the conditions of the animal formation. These things we ascertain as facts. In direct analogy, therefore, with these facts, we say that the mental economy is built up, and upon a ground to which we have no other name than that of soul-substance, whose inherent quality is intellection, or understanding, or mentalisation, upon the reception of the representations conveyed to it.

Experience goes to the confirmation of our view. No one remembers aught of the first dawning of his mind in the world; and upon our view he could not, if it begins with mere sensation. If there is no intellectual personality preliminarily formed, and therefore no *proper* subject to exercise it, there could, of course, be no capacity of remembering the experiences of the dawning mind. But if the Kantian view, so much followed, were correct —if the soul were originally self-conditioned, apart from the body wherewith it is developed, then surely some memorial, some index, would be left to this personality, of the change thus superinduced upon it when introduced into the body. Again: if we look upon the outward evidences of the mental state of the infant just come into the world, what do we perceive? Evidence of *sensation merely*. No one dare affirm more; for he beholds the creature simply expressing the state of its physical constitution, as affected by the external world. By and by, and gradually, there comes about the formation of an intelligent Ego, and therewith an intellectual consciousness of its experiences, which are being constantly augmented and enlarged.

We may be permitted to refer to the *revealed Word*. And such is our unfeigned reverence for sacred writ, that if, upon honest and fair interpretation thereof, aught can be found to clash with, or run counter to, our views, we humbly desire that the word of Scripture should alone have the pre-eminence. It is said, "God breathed into man's nostrils the breath of life, and man became a *living soul*." Does this intimate the formation of

a soul, apart from the body? We think quite the reverse. But what does this term, *living soul* (חַיָּה נֶפֶשׁ), express in Scripture? Nothing but what is predicated of the lower animals! For though our translation makes it "living creature" when applied to *them*, and "living soul" when applied to *man*, there is no difference whatever in the language of the original. And as to נֶפֶשׁ rendered *soul*, it radically means *animal life*, or the principle of *vitality*, and hence comes to be taken for the creature wherein the vitality operates. We find it variously translated in our authorised version, by the terms *life, mind, ghost, heart, desire, lust, pleasure, will;* also by the terms *soul, self, man, person, creature, body, beast, thing.* It is said to *live*, to *die*, to be *poured out*, to be *satiated with food*, to be *made fat*, to *hunger, thirst, pine, fast, weep, cry for vengeance*, to be *poured out in tears*, to *invoke blessings*. All these are expressions taken from our English version of the Bible, as applied to the term נֶפֶשׁ. We ask, do these expressions, any of them, point to the Kantian view of the soul, as self-constituted, apart from the body? Surely the reverse of this.

We might look into the New Testament, where we have the term ψυχὴ corresponding to נֶפֶשׁ. It might be expected, that in those passages, where we find ψυχὴ and σῶμα opposed to each other, that we should gather some information as to an independent condition of the soul, if such there is, in our present sphere. But what do we find? "Take no thought τῇ ψυχῇ what ye shall *eat*, or what ye shall *drink*." Here obviously ψυχὴ means animal life. Again: "Fear not them which kill the body, but are not able to kill τὴν ψυχήν." Here ψυχὴ simply implies that living constitution, wherewith the soul has come to be endowed in connection with the body; but hints nothing whatever as to the pre-existence of a soul, independent of the body. The soul, we have no doubt, is properly the *seed* of that "spiritual body," which shall hereafter be developed from said living constitution, as equipped with divine conditions. At present, the soul is dependent for its equipment upon bodily vitality, when it becomes ψυχὴ ζῶσα, or the conscious activity of that temporal state in which the soul is in close union with the body—the state of the first Adam (1 Cor. xv. 45), and upon the basis of which it becomes πνεῦμα ζωοποιηθὲν through the ministration of divine elements, whereby the law of a perfectly regulated mental ope-

ration, according to the will of Heaven, is realised. When, therefore, the material structure shall have fulfilled its functions for soul-formation, and has served as an instrument to erect a soul-constitution replenished with special conditions, it falls, it dies, it decays, it becomes as if it had not been, just as all things else in God's world, when once they have accomplished the end of their creation; but the soul-constitution remains; and, as we have said, constitutes the seed of that future development, which shall be realised at the resurrection.

Recurring to our view, that the substance of the soul is primarily in a state of emptiness, that is, ere its formation as an intelligent personality, we are glad to find what we regard as remarkable corroboration from Scripture. The Apostle Paul tells us that the Holy Ghost, as Creator, in laying the foundation of the Man Christ Jesus, ἐκένωσε ἑαυτὸν (which, by the way, is a plain intimation that the substance of the Holy Ghost and the substance of the human soul are primarily one and the same); and further, that said *emptied self* underwent a πληρῶσις till it became the πλήρωμα τοῦ Θεοῦ. As regards ordinary man, in our experience the πλήρωσις is characterised as naturally κατὰ σάρκα, hence called σαρκικῇ, or by the still more general term ψυχικὴ, as comprehending the indwelling dominion of the σὰρξ and the κόσμος, which, however, may be subdued, overcome, and counteracted by a training κατὰ πνεῦμα, when the soul becomes characterised as πνευματικῇ, as comprehending the indwelling prevalence of the τὰ τοῦ Πνεύματος Ἁγίου. The ψυχὴ Jude sufficiently defines; for, when speaking of the ψυχικοῖ, he says they are those μὴ τὸ πνεῦμα ἐχῶντες. And what does all this indicate? Why, surely this, that the substance of the ψυχὴ may take on the characteristics of the mere animal nature, and so be filled with carnal representations; or those of the mere worldly economy, and so be filled with worldly representations; or those directly pertaining to the Divine nature, and so be filled with spiritual representations,—its affections being in each case correspondent with the representations wherewith it happens to be filled. In any case, what is properly intellectual is neither more nor less than the mental luminosity or consciousness of the soul-substance, under the representations or conditions, whatever be their character, as giving *mental selfhood* to the soul.

Thus it is that we answer the question of Kant, "Unless you place a pure I at the foundation, in what way can you account for your empirical I?" We have been at the more pains to answer the question, first, because of its intrinsic importance; second, because of the general adoption of the Kantian creed, with more or less of deviation; and, third, because, as we hold, it lies in the way of all philosophical progress; and may we not add, fourth, because of the wide field of theological vision thus opened up to us? And now, we think, we are entitled to turn round upon this hypothesis of a self-contained, independent selfhood of the soul—as supposed to be constituted, neither Kant nor any of his followers say *how*, yet, as they hold—apart from all connection with the body; and to argue that, first, there should be some evidence afforded, if the fact exists; and, second, some hint of the mode of process of its connection with, or operation in, the body. We have no accounts. We challenge any man, first, for evidence of the fact of the pre-existence of souls ere their connection with the body; second, for the mode of said existence; third, for the mode of its conjunction with, and activity in, the body. And if no answer is given, or, which is tantamount thereto, if no satisfactory answer is given, we are fairly entitled to ask, why should this doctrine be received? More especially, why should it be received, if another process can be set forth, professing to rest upon rational and solid grounds, to be consistent with itself, and with the whole harmony of nature; and, still further, professing to answer reasonable objections, and to submit its teachings to the supremacy of the revealed Word? We have reason to think, that the general views we have propounded, with respect to the origin, formation, and constitution of the soul, will bear the closest scrutiny, and the application of every legitimate test: otherwise, we care not how soon they may be set aside; and if said views will abide the trial of *sound* criticism, it follows of course, that the futility of a pure idealism will abundantly appear, and its ghost no longer remain, as the shadow whereby scientific superstition is kept in awe, and Scriptural interpretation is grievously hindered.

If our views are correct, it is obvious enough that the doctrine concerning "innate impressions," as operating in the soul independent of, and unconnected with, the external world, is utterly untenable. Surely, if the contrary theory of these philosophers

is the truth—however prevalent among the schoolmen, and, indeed, among philosophers generally, from the days of Plato—we are entitled to ask, upon what grounds it is received, and what is the evidence of its correctness, as a doctrine worthy of credit,—in short, what are the circumstances which lead us to believe that the prerogative of inherent and independent thinking is a part of the essential constitution of soul-substance? We ask, have we any evidence of this doctrine, either natural or revealed? If so, where is it? We think the evidence is wholly in the contrary direction. Is it not obvious that, if souls are immediately constituted, by the hand of the Creator, into distinctive personalities, apart from, and independent of, the body, as the physical economy wherewith it is allied, that the taint of defilement, wherewith they are scripturally regarded as corrupted *originally*, must needs reflect upon the Deity; and this, because its fundamental conditions are thus ascribed to the *immediate* communication of Heaven? In our view, the doctrine of our original corruption follows as a scientific necessity; for, by its direct and immediate connection with the *flesh* as propagated by ordinary generation from parent to offspring, and partaking primarily and necessarily of the characteristics of the flesh as inherently exhibiting untoward appetites, the soul, as representing the mental manifestation of said appetites, must needs be characterised by them. If souls were constituted by the hand of God, independent of the living body to which they belong, a whole host of incongruities arise, utterly abhorrent to our ideas of the All-perfect Wisdom; for, on this principle, the construction of souls by God, would be made subservient to, and dependent on, the caprices and corrupt desires of man, in the propagation of his kind, in as far as a soul would require to be preconstructed in adaptation to every body which is generated; and, by consequence, the operations of God in this matter would necessarily be regarded as standing in abeyance to the law of animal indulgence.

And, moreover, when we remember that the theory which supposes the primary constitution of souls with innate forms of thought, or native ideas, independently belonging to itself, is a gratuitous departure from the entire analogy and harmony of creation—when we remember that the entire harmony of creation consists of one unbroken uniformity in the process of production—we have no warrant to suppose, unless it were laid down au-

thoritatively by revelation, or ascertained unmistakeably as an exceptional specialty in this case, that the souls of humanity are constituted in opposition to all analogy from the other works of God upon the earth. And, as a direct and never-failing argument in favour of our view, we ask, is it not found, without exception, that the mind of every creature in the world, whether among human beings, or among inferior tribes, is a direct reflex in disposition of its physical constitution? This argument cannot be set aside; and, we believe, ere now it would have gone far to settle this point, but for the bugbear which such an admission has been thought necessarily to draw along with it, viz., materialism. We have faced this bugbear; and we think we have satisfactorily disposed of it. While the nervous system is properly the grand engine of connection with the external world, in the reception of its representations by affinity; and, while the brain is obviously a complex apparatus in connection with the nervous system, on the other hand,—an apparatus fitted, not merely for receiving and conveying the impressions of the nerves, but also for analysing composite conditions into their simple elements, and likewise for combining simple elements into new compositions or concepts; still, this nervous system and this cerebral apparatus are, after all, but the instrumentality whereby those conditions, which in the sensory come to be termed ideas, are conveyed to the soul-substance, or intellectual ground wherein alone consciousness prevails.

Let us not be told that we are meddling with things too high for our range of understanding. It is easy to say this, as a mere excuse for indolence, or timidity, or dislike, in reference to this all-important theme. There is no argument in this! it is unworthy of a cultivated mind; nay more, of a truth-loving spirit. We humbly profess to grapple with the subject; and we hold it a right occupation of our talent, for the use of which we are responsible, that, with all patient attention and reflection, we should devote our energies to the understanding and exposition of these works of God, in order rightly to justify the ways of God. Out of no other study, we are persuaded, can so much profit be derived, save that which goes to an immediate ascertainment of the facts of revelation, and an application of them as motives of conduct; and it has this mighty advantage attending it, that, upon succeeding therein, we shall have discovered a key whereby the facts of revelation itself will be more profoundly ascertained, as

well as perfectly harmonised. On the one hand, we have no hesitation in affirming that the whole range of metaphysics can, upon our principles, be satisfactorily determined and scientifically tested, as a philosophical scheme of mind exhibiting consistency with itself, and beauty and harmony throughout all its departments; and, on the other hand, we have as little hesitation in believing (and this is a result of incalculable moment) that its tendency must be to set forth truth, in perfect accordance and unison with the analogy of faith, in the most natural and obvious interpretations of revelation,—giving to revelation, in respect of its profound truths, a lucidity, as well as breadth and depth of meaning, not otherwise attainable. Philosophy, as it has hitherto stood, is a mighty maze, a mystery in its foundations, a mystery in its operations: it is more than this; it is an inconsistency—an inconsistency with itself—an inconsistency with common convictions—an inconsistency with ascertained facts—an inconsistency with the revealed Word. It is essentially necessary, therefore, to search its foundations, to ascertain its false principles, and, if possible, to substitute the truth.

SECT. III.—THE PROCESS OF REALISING NECESSARY TRUTHS.

Let us take into consideration the philosophy of Hume upon the subject of necessary truth, and the grounds upon which it is held to exist in the soul. This acute philosopher tells us, and the saying has not been questioned, "though there never were a circle or a triangle in nature, the truths demonstrated by Euclid would for ever retain their certainty and their evidence." We venture to brand the conclusion as a paralogism, involving what is essentially false. We take leave to avow that, if there were no such thing in nature as a circle or a triangle, the truths demonstrated by Euclid, in connection therewith, would not, and could not, have an existence in nature, much less their certainty and evidence. When Euclid demonstrates certain truths by means of the circle and triangle, he is simply discoursing of the demonstrable *properties of the circle and the triangle.* But, says the boasted philosophy of our day, properties exist independent of the things of which they are properties! It has been our habit to suppose that it is properties, and properties only, which go to the constitution of the individuality of a thing; and therefore, if a

thing is not, why, of course, the properties which constitute *the thing* cannot be. What constitutes a book, or table, or looking-glass? Is it not the respective properties of each? I may destroy my manuscript: if so, it no longer exists; and it no longer exists, because its special *properties*, which constitute its individuality, as a particular document, are destroyed. Yet this philosophy must needs maintain that a truth exists independent of that on which it depends for existence!

We have said that matters of fact, as matters of assured belief, stand upon the self-same foundation for cognition as mathematical certainties. What makes a mathematical truth a certainty to the mind? Simply a perfect knowledge of the properties or powers of the factors, which, as causal elements, are combined in some particular relationship. We hold this to be the case in respect of all truth—in respect of all phenomena arising as the necessary result of special causalities. We can say of a thing that it is infallibly certain, when, and only when, we are fully acquainted with the factors or conditions which go together as causal elements, and with the relationship in which they are made to stand to one another. We have *this only as our ground of certainty;* and this ground of certainty holds equally good, whether the factors be the ideas of number or of space, or whether they be the ideas of oxygen or hydrogen, or the ideas of acids or of alkalis. All that is needful, is to be in possession of the ideas which go to constitute the causal elements; and, knowing them, to know also the relation in which they are conjoined. Then we are in possession of the causality, and, by consequence, of the phenomenon arising therefrom. It is not of any consequence, whether said ideas be representative of concrete matters of fact objectively in the world, or of abstract elements as constituting the factors of abstract science: the causality which arises under the combination of ideas is, in all cases, precisely and perfectly analogous. I know that two ounces will counterbalance a greater weight than one ounce, with as much certainty as I know that two is greater than one. I know that acids and alkalis have a greater affinity for each other than one acid for another, or one alkali for another, as fully as I know that six is greater than five. These are ideas of perception. Now, when I come to know the precise conditions of any particular alkali, and the precise conditions of any particular acid, I am able to predict the

result of all relationships between them, just as much as when, knowing the precise conditions of five and of six, I am able to predict the result of any particular combinations of these. We hold, in respect of matters of fact, that the contrary of the phenomenon arising under any particular causality, is as impossible as the contrary of any demonstrable conclusion in mathematics. Hume says no! and gives an illustration. "That the sun will not rise to-morrow, is no less intelligible a proposition, and implies no more contradiction, than the affirmation that it will rise." Indeed! Then it would be equally plausible to say, that two and three will not make five to-morrow, is as intelligible a proposition as that they will! If the self-same causality which has prevailed to make the sun rise to-day, shall exist to-morrow; then it follows, as a matter of strict necessity, that the sun shall rise to-morrow as well as to-day, and the contrary cannot be supposed without a contradiction. Of course, it *may* be supposed that a change might take place in the relationship of the causal elements, because, as we have already pointed out, there is no absolute necessity attending the constitution of causes; but this is not the point with our author. His proposition has no meaning in it, unless it is understood that the self-same causality, which has existed to-day, shall also exist to-morrow; and his doctrine being, that there is no necessary connection absolutely prevailing betwixt cause and effect, he propounds the extraordinary dogma, that the self-same causality may, without contradiction, produce a variety of effects! This is one of the extravagances which has so long defaced philosophical doctrine as yet enounced. We hold, and we have proved, that, once granting a specific combination of conditions, as an economy of causality, for the formation of a result, a specific effect *must* follow, and nothing else; and this with as much precision and certainty in respect of matters of fact, as in respect of mathematical propositions.

A moment longer with Hume; and this with respect to the origin of our idea of causality. He says, "All the laws of nature, and all the operations of bodies, without exception, are known only by experience." He goes on to say: "As the first imagination or invention of a particular effect in all natural operations is arbitrary, when we consult not experience; so we must also suppose the contemplated tie or connection, between the cause and the effect, binds them together, and renders it impossible that

any other effect could result from the operation of that cause." Again, he says: "It is allowed on all hands, that there is no known connection between the sensible qualities and secret powers; and, consequently, the mind is not led to form such a conclusion concerning their constant and regular conjunction, by anything which it knows of their nature. As to past experience, it can be allowed to give direct and certain information only of those precise objects, and that precise period of time, which fell under its cognisance: But why this experience should be extended to future times, and to other objects, which, for aught we know, may be only in appearance similar—this is the main question on which I would insist. The bread which I formerly ate nourished me; but does it follow that other bread must also nourish me at another time, and that like sensible qualities must always be attended with like secret powers. The consequence seems no way necessary." We meet Hume in fair argument. First of all, we prove that the condition of things is the precise exponent of their secret powers; so that, when we become acquainted with the condition of an object, we thereby become acquainted with its secret powers. If this were not the case, there could be no such thing as identity; and if this were not the case, there could be no such thing as law. We have endeavoured to show that potentiality is inseparable from substance, as being an inherent attribute thereof; that quality of substance must needs be the general measure of the force with which potentiality is expressed; and that the precise condition imposed upon quality must be the precise measure of the force. If we have succeeded in demonstrating this view, then it no longer can be said that "there is no known connection between the sensible qualities and the secret powers." Secondly, we prove that *time* has nothing to do with the constitution of causality; time itself being nothing else than the adjunct of succession, attending the operation of causality, and therefore being a phenomenal accompaniment or result of causality. We have before dwelt at considerable length on this subject; and we are unwilling to extend our remarks beyond what is absolutely essential to establish our ground.

It is remarkable, that Hume's argumentation should have so baffled the world of philosophers. Sir William Hamilton says: "To the Lockian sensualism Hume proposed the problem: to account for the phenomenon of necessity in our thought of the

causal nexus. That philosophy (he continues) afforded no other principle than the *custom* of experience, through which even the attempt at a solution could be made; and the principle of custom, Hume shows, could never account for the product of any real necessity. The alternative was plain. Either the doctrine of sensualism is false, or our nature is a delusion. Shallow thinkers admitted the latter alternative, and were lost: profound thinkers, on the contrary, were determined to build philosophy on a deeper foundation than that of the superficial edifice of Locke; and thus it is, that Hume has been, immediately or mediately, the cause or occasion of whatever is of principal value in the subsequent speculations of Scotland, Germany, and France." It would be a false delicacy, were we to say, that we do not accept the problem for solution. It may seem pretentious to say so; but, with all humility, we offer what has been already submitted in these pages as containing a satisfactory solution of the problem.

For the sake of brevity, let us simply note, that the connection betwixt cause and effect, first of all, depends on the very principle of *identity of elements;* that conditions which undergo no change are the same conditions, and their "secret power," that is, their force as expressed by their affinity, remains the same: time cannot be said to change them if they remain the same. Indeed, time, as such, can change nothing, and does change nothing: it is simply a convenient use of popular language, to say that time operates. Change takes place *in* time, it is true; yet said time is itself the result of a primary causality. Change never arises out of what may simply be called *time:* change takes place from a causality which is at work irrespective of time, and which is productive of time. Granting that the movements of the earth with respect to the sun constitute the foundation of our ordinary divisions of time, the change that is taking place, by the consumption of the oil in my lamp, is effected by a cause totally irrespective of said movements. Time, therefore, comes not into play in considering the connection betwixt cause and effect. All we have first to ask is, that it be granted that the *self-same conditions* may characterise an object to-day and to-morrow, or any future day, so that we can say to-morrow, this is the same object, or an identical object, that we have seen to-day. The connection betwixt cause and effect depends, in the second place, upon the *identity of relationship*, in respect of the kind of contiguity of the

elements. Relationship, in fact, is the tie, or *nexus*, which binds cause and effect together. *Without* relationship, the causal elements are loose, and without a tie: *with* relationship, the causal elements must needs express the character of that relationship, as their phenomenon or effect. It is not primarily necessary, perhaps, to constitute any particular relationship: this is not the point; but, when once constituted, it *must* be regarded as what it is. We have already sufficiently dwelt on the fact, that in causality there are only two points, whereby an effect is modified: viz., first, by any change among the causal elements; and, second, by any change in the relationship of their conjunction. Time has nothing to do with the law of causality *a priori:* it arises merely as a phenomenal adjunct *a posteriori*. If, therefore, the condition of the causal elements or factors is the same now, that they were yesterday; it follows, as a necessary consequence, that their force, from affinity, is precisely the same now that they were yesterday, in as far as condition is the precise exponent of affinity: the law of identity demands this. Further, if the relationship of said conditions is the same now, that they were yesterday, the expression of the affinity of said relationship is also the same: the law of identity, which is the principle of non-contradiction, demands this. If, therefore, it is proved that affinity is the inherent attraction or repulsion belonging to causal elements, and if it is proved that relationship gives expression thereto, the character of the relationship constitutes the character of the tie, which binds cause to effect. And if relationship is what it is, why, upon the principle of non-contradiction, there *must* be a particular and constant effect, at all times, from a particular and determinate cause.

As to the *origin* of the idea of necessity, we have to state, that this idea, like every other, is acquired in connection with our experience of external nature. In acquiring ideas generally, we have before observed, that they are either obtained fundamentally by direct perception, and then laid up in the memory; or apprehended as those with which we have had former acquaintance, and drawn from the storehouse of memory; or manufactured by conception out of those already acquired. In acquiring, then, the particular idea of necessity, there must be, first of all, the realisation of a fact as an outward phenomenon simply; that is, we must perceive something, and be able to say what we do perceive.

This simple perception may not inspire the idea of necessity; but let any one question the fact of our seeing, or the fact of the object being as we perceive it, and the idea of necessity at once arises; because a thing *must* be to us what it is, and nothing else. Hence the statement of philosophers, from Hume, that we "draw an inference of necessity merely from a uniformity of conjunction," will be found no less incorrect than the position, that "the idea of necessity is a fundamental form of the native intellect."

We would shirk no portion of the argument. Let us say that we agree with Mr Hume, when he writes, that "all the laws of nature, and all the operations of bodies, without exception, are known only by experience." But what does this imply? It implies, first, that certain laws of nature are cognisable by experience; and, second, that they are determinate as laws, under similar circumstances, otherwise they are no longer laws. It is no law, if it is not fixedly operative, under the precisely same circumstances. This being the case, what follows? Why, this, of course: that in respect of that particular operation, of which a man has had the experience, he can, upon the principle of identity, or non-contradiction, predicate, that *that which has been, is that which shall be, when the circumstances are the same.* Of course, the circumstances *may* be changed—the conditions of the causal elements *may* be modified—the precise relationship of said elements *may* be altered—there *may* be the introduction of some new element—there *may* be the absence of some former element —all these, or any of these things, *may* happen: but this is not the question before us. The question is, and the principle we lay down is, that, *granting the circumstances to be essentially similar, the result must, upon the principle of non-contradiction, be essentially similar.* Readily allowing, then, that, *a priori*, we are incapable of pronouncing as to the preciseness of events, in regard to whose causality (that is, conditions and their relations) we have had no knowledge by experience, we ask, upon what ground it is that Mr Hume pronounces "the tie or connection between cause and effect to be arbitrary." We allow that a man is arbitrary, in pronouncing as to a particular effect, when he is ignorant of the causal elements, and of their relation; but where is the logic in asserting, that therefore the connection itself between the cause and the effect is arbitrary? The arbi-

trariness of the man consists in the presumption of assuming a tie, in ignorance as to the true tie. Hume's conclusion is, that he is arbitrary in imagining any tie! Hume speaks of "a step taken by the mind, which is not supported by any argument or process of the understanding:" has he not himself given us an illustration!

We proceed one step further on this subject. While allowing that, *a priori*, we are frequently incapable of predicting results; and this from our ignorance of the precise nature of the causality; we yet as readily assert, that frequently we are in circumstances to draw correct inferences as to what shall be, even in cases where we have had no immediate experience. For example, if I ask about the health of a friend, and receive for answer, that he is out hunting, I at once *infer* that he is well. Hume asks, "Upon what process of argument is this inference founded? What is the medium, the interposing ideas, which join propositions so very wide of each other?" We can answer this question; and, in so doing, we have simply to explain the process whereby any *inference* whatever is drawn; for the process is, in all cases, precisely the same. Drawing an inference is *the linking on to a given idea, another idea, which is associated with it in our experience, and which answers our requirements.* In the example before us, the given idea is *hunting:* the idea joined therewith in our experience, and as *answering the requirements of the question,* is that of *health:* hence this latter idea is appropriated as a necessary accompaniment of the premises. John the Baptist sent and asked of Jesus: "Art thou He that should come?" and Jesus answered, "Go and tell John, that the blind receive their sight," etc. John was left to draw an inference. The *given idea* is, that the blind receive their sight: *the experience associated with said idea* was, that the Man who openeth the eyes of the blind is *from God.* The Jews were educated with this idea. Nicodemus expressed it when he said, "No man can do these miracles that Thou doest, except God be with him." This associated idea, therefore, comes up as the necessary inference, because it *answered the question.* The process, then, whereby we draw an inference, is sufficiently obvious. If, in our experience, or by our education, we have been led to associate certain elements together, when one of these are given in answer to a question, it not unfrequently happens, that the real answer is to

be found, not in the idea given, but in that which is known to be associated with it, in our belief or experience. It is, in fact, this kind of process which belongs to all reasoning, whether by *induction*, or by *deduction*. In the former case, we supply a cause, when the consequent of the object is given: in the latter case, we supply a consequent, when the operating cause is given.

Custom has been referred to as that which determines a man to draw inferences. As well might we say, it is custom which determines a tree to put forth its leaves, and to yield its fruit. If there were no apparatus adapted for the purposes of reasoning, and if there were no affinity betwixt ideas among themselves, on the one hand, and in connection with said apparatus, on the other hand, for associating or bringing in suitable relations, as we require them, custom could do nothing. Children begin to reason, not because they are brought up amongst reasoning beings, but because, when their organisation is sufficiently developed in its growth, it naturally operates according to its inherent nature. And let it be noted, that the inferences of a child are not dependent on frequency of occurrences. If he has *but once* burned his finger in the flame of a candle, it is certain he will refuse to put his finger there again. But, independent of all this, the folly of ascribing our inferences to custom will at once be allowed, if we consider what custom is. Custom, in order to generate the exercise of drawing inferences, ought to be *antecedent* to reason: but what is the fact? Why, it is necessarily *consequent* to it. There must be the exercise of a prerogative, before that exercise can become a habit. Custom has respect to the recurrence of a thing produced by a causality of its own. A disposition to the recurrence may be engendered by the frequency thereof; but it is sheer folly and childishness to confound the disposition towards a thing, with the causality whereby it is produced. Locke ascribed the prerogative of drawing inferences to custom; and Hume could ascertain no better cause if we searched merely the field of experiences, though, being far from satisfied with this, he proposed the question as a puzzler, which would go hard for the sensualistic school to explain. Whether we have succeeded in solving the grand problem of mental as well as physical causality, others fitted to judge must determine.

BOOK V.

THE PHILOSOPHY OF THEOLOGY.

CHAPTER I.

THE ABSOLUTE.

SIR WILLIAM HAMILTON says, "The term, Absolute, is of a twofold ambiguity, corresponding to the double signification of the word in Latin. 1. *Absolutum* means, what is *freed*, or *loosed;* in which sense, the absolute will be what is aloof from relation, comparison, limitation, condition, dependence, etc., and is thus tantamount to τὸ ἀπόλυτον of the lower Greeks. In this meaning, the absolute is not opposed to the infinite. 2. *Absolutum* means, *finished, perfected, completed;* in which sense the absolute will be what is out of relation, etc., as finished, perfect, complete, total, and thus corresponds to τὸ ὅλον, and τὸ τέλειον, of Aristotle. In this acceptation (and it is that in which, for myself (he says), I exclusively use it), the absolute is diametrically opposed to—is contradictory of, the infinite."

The distinction above expressed, as regards the absolute, holds perfectly good: and we go beyond our author, and say, that *both senses are necessarily required,* in order to get to the foundation of the grand problem of philosophy. We shall afterwards have occasion to show how, and in what way, the term *infinite* applies unto each of these meanings: for the present, our business must be to point out the validity of the meanings themselves. They may be briefly distinguished as the absolute in respect of the unconditioned, and the absolute in respect of the conditioned. We begin with the former.

The Absolute, as applicable to the unconditioned, has respect to the state of mere substance, when deprived of all contingency. We reach it by a negative process—by a privation of all that is

contingent—till we logically realise that unity, or absolute simplicity, or primary substratum, which constitutes the ultimate basis of the conditioned. Of the *absolutely* unconditioned we can have no direct experience; but of the *relatively* unconditioned we have never-ceasing experience; and it is by a legitimate use of this analogy, that we inductively arrive at the characteristics of the absolutely unconditioned. Now, what we say is this, that said characteristics are entitled to be claimed as genuine, provided always they will bear the test of universal application, as explanatory of the laws of the conditioned. As regards the relatively unconditioned, we have the experience of the conversion of the dust of the earth into an indefinite variety of qualities, with their respective conditions, illustrated by its conversion into the varieties of the vegetable economy; and thence, again, by a further conversion into the varieties of the animal economy; and, *vice versâ*, we have the reconversion of these into their original element. And not only is it the generic basis out of which all kinds of wood, and plants, and fruit have their substance, and, through these, out of which flesh, fibre, and bones, belonging to the living tribes of a still higher creation; but without doubt, also, the foundation from which are built up a silicious, if not also a metallic, character of substance. Be this as it may, we know that the characteristics of these various qualities are, every one of them, of a *contingent* nature, and may be practically annihilated. And further, we know, that in the removal of one characteristic, as the phenomenal quality of substance, we do not remove the substance itself, but merely descend to a more general or primordial quality; and from that, again, to one still more primitive,—each quality, as we descend, being simpler in its nature, and more generic in its character. Practically, we can recede in this retrogression towards primitive substance, to a certain extent: we can go as far as oxygen, and hydrogen, and nitrogen, and others equally primitive; and thereafter we are necessarily left to argue from analogy. We call these, and others, "primary substances;" but does any one for a moment suppose, that they are actually and absolutely primary? Assuredly not. We are able to annihilate those substances, termed flesh, and muscle, and bone, belonging to the animal; and we are able to annihilate wood, and bark, and leaves, and all that belongs to the vegetable; and we are able to

reduce the vast multiplicity of physical substances to a few compound elements: but does it follow, that because, in *practical* experiment, our course or career of reduction is arrested, and, for obvious reasons, that therefore there is no further reduction possible? Quite otherwise. Analogy forces us to the conclusion, that as multiplicity is practically found to be hedged within a certain circumscribed unity; so, that variety which still presents itself, as belonging to this unity, must be regarded as the offspring of a still simpler, and yet more primitive entity. Nor have we any rest, nor can we logically have any rest, when we have once been taught to commence this backward course—this removal of the successive chain of individualities—till we arrive at an absolutely—primary substance, if we may so term it, beyond which it is impossible to go, in the annihilation of contingencies, and which, therefore, of necessity underlies all substance. This primordial entity is what we term *the unconditioned;* and as every successive removal of conditions is an *emptying*, so to speak, of certain qualities superimposed on those which had preceded them, so the whole process of privation is an emptying to the uttermost degree; and the unconditioned, therefore, as perfectly emptied of all contingent quality, must be regarded, therefore, as *the absolute*, in respect of what is tantamount to a state of *nihilism*—a state of utter *impersonality* or unindividuality.

There is no doubt we must come to such an absolute as this: and, what is more, we must come logically, *first of all*, to such an absolute as this: but, when we reach this, we shall then perceive the necessity for another and a different absolute. If we must reach an absolute as respects the unconditioned, we must of necessity also have recourse to an absolute as respects the conditioned. If we rest satisfied with merely reaching the unconditioned, in what do we rest, but in a naked, empty, unmeaning, inoperative, cold, and heartless Pantheism? Pantheism, indeed, so far as it teaches the doctrine of *zero*, as ultimately applicable to the ground wherein all reality comes to have its validity—zero, as implying *no thing*, no condition, no operation, no phenomenon of any sort—teaches what, *so far as it goes*, we must deem true philosophy; but, if philosophers rest here, and propound this absolute as the *ne plus ultra*, the boundary-line, of all further investigation, they leave us in a position demonstrably absurd and

ridiculous—a position equally pitiable and illogical. For the question at once arises, if the sweeping away of conditions, as realised in the physical economy, brings us to the unconditioned, as the absolute, beyond which there is no further regression, *whence could have primarily sprung up those conditions and forms which we now find to be actually in existence?* We are necessarily constrained to set forth a primarily conditioned, as the absolute source or fountain, whence physical conditions have emanated; just as we are necessarily constrained to set forth a primarily unconditioned, wherein all conditions may find their expression. The unconditioned is the absolute, whereon the economy of creation is built; but how could a building arise without a builder, and how could conditions be imposed without pre-existing conditions? *Ex nihilo nihil fit* is a maxim, not only in perfect consonance with all experience, but in perfect harmony with all reason. We cannot construe in thought the possibility of evolving conditions, without the existence of preliminary conditions. We know nothing of spontaneous forms from absolute emptiness of form—nothing of conditions purely *de novo* in the unconditioned. No man ever did: no man can conceive the possibility of this. Such a doctrine, while contrary to all experience, and in contradiction of all reason, would break up and destroy all science, and render the principle of causality a nullity, or rather a contradiction,—an uprooting of all principle as such. We have already discussed the principles of causality; and we have found that causality without causal elements, as affording the type of operation, would be a contradiction in terms. There are modifications, indeed, of the precise conditions of the type constantly taking place—modifications occasioned by the influences of climate, soil, nutriment, training, and a thousand other modifications which may be brought to bear on the growing object, and which may tend, as the case may be, to encourage or retard the full development of the typical parts; but an absolute commencement of conditions without a type, we hold to be so utterly out of the question, as to be nothing less than nonsensical and absurd. The laws of nature are simply capable of *reproducing generally* what has been *introduced specially;* and therefore there is no alternative whatever, in accounting for the primary introduction of types,—that is, for their creation as existences,—but to refer them to the Original Source of all created conditions.

This source must be *the all-conditioned*—the absolute in the second sense, as referred to in the outset; that is, the absolute, as a self-contained, independent, underived Personality—a Personality whose character is that of *totality*, in comprehending within Himself all the types of the universe, and apart therefore from whom, as the Absolute Originator, no fundamentally new forms could by possibility have a place in being.

And what are we enabled to say respecting this absolute as τὸ ὅλον—the all-conditioned? We may be told that, by tracing to the absolute the conditions of material things—conditions which have their validity in our limited world—conditions partaking inherently of the nature of space and time—conditions necessarily implying what is circumscribed in their constitution and in their relations, that we thus do predicate limitation, and similar limitation, of the Absolute. And it may be said, if we thus limit the conditions of the Absolute as a personality, and define relationships in Him as marking commencement and termination, do we not thereby mark in Him dependence and derivation? And it may be asked, are such relations properly descriptive of His nature? Is He not emphatically, and throughout the entirety of His being, the Infinite and Eternal? The discussion of these points leads us into a new field of contemplation, based upon the character of the Absolute. Let us, therefore, proceed to consider the Infinite, as a character belonging to the Absolute; and this, when we interpret the Absolute as referring to the unconditioned on the one hand, and to the all-conditioned on the other.

CHAPTER II.

THE INFINITE.

THERE are, as we have seen, two Absolutes—the all-conditioned and all-unconditioned—the absolute personality as containing *all things*, and the absolute impersonality as containing *no thing*: the former being the absolute, as πλήρωμα or all fulness; the latter being the absolute, as κένωμα or all emptiness, within which there is inherently no element, no form, no operation, no line, no limit. Let us consider the Infinite in either case.

And first, as regards the unconditioned. How do we acquire

the idea of infinity, and what is the idea of infinity which we acquire in connection with the unconditioned? We ask, how do we acquire the idea of the unconditioned itself? It is by breaking down or destroying conditions in succession, as they have been successively built up in intimate dependence, and continuing this process till nothing remains but absolute emptiness. Precisely so we acquire the idea of infinity, by breaking down or destroying the finite. In other words, it is by our negation of *space* that we acquire the notion of infinity. Space, as an idea, comes to us through our cognition of the finite. We have defined space to be *the negation marked out by the boundary-lines of form.* The idea of matter is in itself excluded from our idea of space. Space is a defined negation: and, as defined, it may be interrupted, or circumscribed, or filled up by matter,—that is, by material limits; but *space is not matter.* Now, if in thought we break down *all* limits, just as in experience and practice we can break down *certain* limits, we shall realise the idea of infinity, as applicable to the unconditioned. We say, the earth, as a globe, occupies so much space: we say also, that the sun, and the moon, and the stars, as globes, each respectively fill up so much space: we say, moreover, that there is so much relative or intermediate space in the vacancy between these spheres of matter: Let these globes be annihilated—let all the globes and material objects which we can fancy to be in existence be annihilated—what follows? We necessarily thus destroy all the boundary-lines which their existence imposed: we obtain *negation without a limit,*—that is, we obtain *infinity.* Absolute negation is infinity. Now, what we say is this, that, antecedent to the introduction of the worlds, there was simply the all-conditioned, as the Infinite, existing in the unconditioned, as infinity.

And how do we acquire the idea of the Infinite, and what meaning do we attach to the idea of the Infinite, as characterising the all-conditioned? We at once answer, and we briefly answer, that we acquire the idea of the Infinite, as the all-conditioned, through the conditions wherewith we are conversant; and the meaning which we attach to this idea is, that there is *no limit to the devisements or inventions of the Absolute,* as pertaining to the establishment of new conditions, with the full complement of relations which furnish a new economy of being.

And here let there be noted, as we have already observed, the

distinction betwixt intellectual substance, as exhibiting the phenomenon of subjective cognition, with consciousness as its attribute, and mere material substance, as exhibiting the phenomenon simply of condition, operating under mere form, as its attribute; and, moreover, let there be noted in this distinction, as we have already pointed out, that material forms, in the operation of causality, can only reproduce themselves, subject to such modifications as the influence of surrounding circumstances impose, while it is the high prerogative of that intelligence denominated rational, to invent or create conditions and forms, to which there had been no pre-existing type: in which case, we necessarily contemplate the all-conditioned Absolute, as inherently grounded in, or rather as characterised by, a subjective rational consciousness or intelligence. This fact, it is indispensable to notice, not to show how the Infinite follows as a necessary consequence of the Absolute, but to bring us to a right apprehension of the Infinite. We might point out a distinction betwixt the Absolute and the Infinite. The conditioned Absolute is distinguished from the conditioned Infinite, in that the former implies *all that is essential* for the origination of things, while the latter implies the *non-limitation* of the power whereby things are originated. The Absolute implies the *underived and independent allness of elements*, out of which may be manufactured all that is derived or contingent in being: the Infinite implies, not merely the exercise of the prerogatives inherently belonging to, and indeed constituting, the Absolute, but *the endlessness of conception*, and along with the unconditioned, the *endlessness of scope* for the objective manifestation of conception. The Absolute denotes that perfect equipment of eternal essentials which are sufficient for the production of derived existences: the Infinite denotes the unbounded scope which pertains to said eternal essentials, in creating and preserving new forms of being. Let us call to remembrance in what way rational intelligence manufactures new concepts.

We have said that rational intelligence *can alone* manufacture new concepts—can alone introduce absolutely new conditions. We have observed it as a rule to which there is no exception, that the ordinary laws of nature can simply propagate or *reproduce* conditions which have already been once *introduced*, or instituted, in the external world; and that, if there is a condition primarily

established, to which there exists no type in outward being, said condition is invariably traceable to rational mind. The question then is, How does a rational mind create what is absolutely new, as a condition having no previous existence? The answer is, From its own conditions, as *the existing furniture of its mind.* Let it be alway remembered, that, whatever new condition of being comes to be established in the world, said new condition is the progeny of certain pre-existing conditions, brought specially into a particular combination or relationship. And, as conditions in the mind (ideas) are correlative to conditions in the physical world (forms); so, when new conditions are introduced for the first time into the physical world, it is obvious that they were originally manufactured or created in the economy of mind, and thence transferred, as conditioned forms, into the economy of matter. And the more fully the human mind is informed, or equipped with intelligence, that is, with the conditions of being, the *more extended* is its equipment for devising new concepts, in the fulfilment of fresh purposes.

But the human mind is finite! How finite? Finite in respect to its equipment—finite in respect to its amount of information—finite in respect to the means and extent of its operation—finite in respect of the limited number and variety of its conditions, its elements, its ideas, its factors—finite, therefore, in respect to the contracted sphere of its action. It cannot invent or devise new conditions, if it has not obtained the causal elements, out of which alone said new conditions can spring. If it is an inexorable rule, that *all new conditions spring from the new relationship of pre-existing conditions*, the rule cannot operate where no knowledge, and consequently no conditions, have been acquired; for the mind can only devise new conditions out of the subsisting elements of its knowledge. It is utterly incompetent to range beyond the sphere of its own contents. Hence the finity of man.

But, out of this view, we may easily understand what is meant by the Infinite, when this term is applied to the Absolute as an all-conditioned personality. Man is finite, because he is not absolute. There are conditions of being beyond those which man has acquired in his understanding: Man is of necessity, therefore, finite. But, in the case of the Absolute, there are no conditions of being which are not found therein, or traceable thereto, as fundamental or essential attributes, in their purest and

most perfect form. The Absolute implies a mind which has *all* knowledge. Out of *all* knowledge, the Infinite is realised. A mind having the very basis of all knowledge, can indefinitely multiply new concepts, and manifest new creations. A mind that is all-embracing with respect to the contents out of which all knowledge springs, and beyond whose contents no knowledge exists, or is possible, must needs be omniscient—omniscient in respect of all possible existence, as well as of all actual existence. But it is not the omniscience, or all-embracing capacity, which constitutes the infinite. The Infinite arises from the capacity of new developments of still an endless continuity of conceptions; and omniscience keeps pace therewith. All depends upon the Absolute, as comprising those essential and fundamental, those underived and eternal elements, which are the first causal elements of creation. Said eternal or underived elements belong to, or rather themselves constitute, the forms inherent in the Absolute, as the fountain of all thought. Out of these—that is, out of the intelligence which these essentials, as the attributes of independent being, imply—new relations are instituted, *i.e.* new concepts are formed, *i.e.* new creations are devised in the mind. We repeat, that which constitutes the Infinite, as based upon the Absolute, is the inherent possession of all means for indefinite conception, that is, for endless creation. And let be remembered, that while *the all means* of endless conception exists in the Absolute, as the all-conditioned personality; *the all scope* of endless creation depends on the absolute, as the all-unconditioned impersonality; in other words, there must be *absolute infinity* as the negation, affording scope for an endless process of filling up by the *Absolute Infinite.*

And let it be observed, in plain and unmistakeable terms, with respect to God, as the Absolute and Infinite, that a process of creation must be regarded as, first of all, taking place subjectively in His own mind, before a process of creation can be established objectively thereto. It is of vast importance to notice this; for the overlooking of it breeds the uttermost confusion of sentiment on the question of Divine decrees, and, in fact, shuts the door against the due understanding of subjects, that must be otherwise involved in mystery, and which, we assert, are not beyond the province of satisfactory solution. The Augustinian doctrine, that "there can be in God no succession,"—a doctrine which has

been too generally received, under the notion that it implied the perfectness of the absolute,—logically strikes at the operations of God as a creator, and, when profoundly contemplated, takes away the character of God as a thinking being. God we must regard as the Creator of time,—in whose bosom all the operations of time have been realised in conception, before the operations of time in the world had their validity begun: it is to us, therefore, nothing less than extravagant, to say that "in God there can be no succession." True it is, that all succession in the evolutions of time, as these are *now* manifested in the world, are clearly and abundantly before the mind of God, from the beginning of the world; and this, because all the arrangements of time were embraced in his bosom, being resolved upon before the world began. But who will say that said arrangements of time had an absolute existence in the mind of God from eternity? This would be not only making the arrangements of time as now passing synonymous with the existence which is essentially eternal, but would deprive God of the character of Creator in its highest sense,—in fact, of the character of a thinking and conceiving intelligence. This, in fact, would be denying *any* "beginning" to the arrangements of time. This would be regarding all timely elements, as existing in the knowledge of God—that is, as existing in the mind of God—to be themselves essentially underived, and *à priori* everlasting. This would, therefore, be a denial of our creation *de facto;* for the objective manifestation of new conditions in the world, is but a *transcript* of the conditions which have been realised in the mind. This, as we have said, would go to destroy all belief in the doctrine of creation, as a conception or invention of something new, in as far as it would involve nothing more than an objective forth-putting of an unbegotten reality. Nay, it would go to destroy anything like decree, in as far as it would imply, that what is now transacted in the economy of the world, is but the objective counterpart of what has been existent without beginning in the economy of the Divine mind. All this we must hold, if "there is no succession in God."

What we propound is this: *First,* that the Absolute consists of those fundamental and essential attributes, constituting a personality or self, beyond which, primordially, there is nought that is conditioned: *second,* that, in virtue of said attributes, there existed an inherent conscious intelligence of self, as the alone-

conditioned and the all-conditioned: *third*, that, in virtue of the fundamental, the underived, or the eternally *actual* conditions of self, there existed, as the law of harmony in connection with these, the intelligence of what is *possible*, or the understanding of what *might be* developed from these: *fourth*, that concepts thus formed, became themselves the bases of fresh and future concepts, yet further to be developed in the exercise of thought: *fifth*, that, in the exercise of the Divine mind, as contemplating a series of timely arrangements, there was a gradual self-expansion of the Divine mind, *quà* said arrangements: *sixth*, that, as the means of developing or devising what was new, were absolutely unlimited, so the Divine mind is alone entitled to be regarded as the Infinite: *seventh*, that as all things were devised subjectively in the mind, before they were displayed objectively beyond the mind; so all the transanctions which are *now* being brought out in close succession by the course of time in the world, are not new to God, though new to us. We would not willingly be misunderstood on a subject whereon much important doctrine hangs. God is the Absolute, essentially and underivedly, in as far as he is characterised by those conditions which form an eternal necessity in being. God, as the Absolute, becomes inherently and potentially the Infinite, in as far as He is characterised by those conditions, which form the original or type of temporal arrangements. On the one hand, all knowledge of essential self-hood is centred in the Absolute; on the other hand, there is no assignable limit to the creative genius of the Absolute. The Absolute is thus the Infinite. Because He is the Absolute, the patterns of things were begotten in His creative mind, and their laws and operations realised, before aught was in external existence. Hence, "Known unto God are all His works from the foundation of the world." And because there is no assignable termination to the begetting of other patterns, beyond those created already, He is, therefore, properly the Infinite.

CHAPTER III.

THE ETERNAL.

How do we acquire the idea of eternity? We answer, through our idea of time: it is by taking away, in thought, the conditions of time. Time, we have seen, depends upon the *motion* of objects, just as space depends upon the *form* of objects. Time is impossible without motion, just as space is impossible without form; and time depends upon space, because motion depends upon form. Time, indeed, is not, strictly speaking, *motion;* and space is not, strictly speaking, *form;* yet, as we have space wherever we have form, so we have time wherever we have motion. As we have defined space to be *the negation betwixt the boundary-lines of form,* so we have defined time to be *the negation betwixt the boundary-points of motion.* It has been noticed, in the discussion of this subject, that there are what are properly regarded the boundary-points, or points of transition to a body in motion. Any points in space are rightly so considered which are relative to a body in motion; and our definition simply expresses, that time is *the interval which a body in motion marks in its transit from one point in space to another.*

Having set forth the very grounds and source of time, as displayed in the world, and as we thence acquire it in idea, the question, we repeat, is, how the idea of eternity is derived through that of time? As time depends upon the pre-existence of two essentials,—first, upon that of *space,* and second, upon that of *motion* in space,—so we necessarily abolish time when we abolish either the one or the other of these in our thinking. Suppose that all the relations of space remained, while we remove one simple idea, not essential to that of space, viz., the idea of motion, we hold that time is effectually banished thereby. A plain example has been given by the stoppage of a clock, as an instrument for the measurement of time. There is space, and the points of space, and the instrumentality to be moved; but, for want of motion, there is no transition, therefore no succession, therefore no time. Another illustration would be found in the stoppage of the motion of the earth. By the mere existence of the earth and of the sun,

we have space, and points in space; but, for want of motion, we have no measurement of time—we have no revolution of day and night, no revolution of years, and of seasons therein. Without motion, there could be no eventuality, no commencements or terminations,—in short, no manifestations of time.

Time would be still further abolished were we to annihilate space; for, in that case, there could be not only no motion, but no points, to indicate an interval of transition from one moment to another. And thus, if we even did suppose a body in motion, yet if we do not also suppose another body in relation to said moving body, there could be no transition, and no succession. If we remove the figures from the face of a clock in motion, it could give no measurement of seconds, and minutes, and hours. If we were simply to remove the sun from the heavens, and suppose the earth to move as before, we could have no measurement of days or of years. If all relative points in space were removed, while yet we imagined the motion of the earth in its orbit to continue undisturbed, in that case, the earth could mark no transition, and therefore describe no interval of transition, and therefore no rotation of day and night, summer and winter, etc. And were the earth itself, as well as the other globes of space, annihilated, much more would time be annihilated therewith. If we annihilate space, we necessarily also annihilate time.

But we may be told, that the state of timelessness thus indicated applies merely to objective time—that is, to time as dependent upon created material conditions—to time as arising out of the existence of outward contingent forms; and it may be asked, how can we reach a state of timelessness in respect of a thinking personality? We answer, after precisely the same fashion, only by stopping its operations, or by depriving it of its conditions,—that is, simply by destroying it as a thinking personality. We have seen that there can be a state of timelessness for material creation, only by destroying its operation, that is, its attribute of *motion:* precisely in analogy therewith, there can be a state of timelessness for intellectual creation, only by destroying the laws of intellect, that is, its operation of *thinking.* It will be found that, in all respects, the intellectual economy is perfectly analogous to the material economy, as an economy of conditions in operation. It must be so, if our doctrine is correct, which lays it down that all intelligence is simply the understand-

ing, that is, the cognition, of *condition*, as the internal property, and of *form*, as the external property, of things; the cognising element being that substance which, while capable of taking in the representation of things, has therewith the attribute of consciousness aroused, as the characteristic of its nature. Hence it comes to be obvious enough, that since form necessarily manifests space, so the very transference of form in representation to intellect, necessarily constitutes, in intellect, the idea of space. In other words, as every condition is in some form or another, which, in the intellectual ground, constitutes thought, so thought must of necessity contain the idea of space. And, again, as the motion of one form with respect to another, constitutes time; so, the transition of one thought with respect to another, must contain the very notion of time. A state of thinking and a state of time are utterly inseparable. It is so practically, as a matter of our experience: it is so scientifically. Our premises are, that a state of *thinking* is the correlative, intellectually, of a state of *motion*, physically. A state of motion, therefore, being intrinsically a state of time, so also must be a state of thinking. We cannot get rid of a state of time, so long as we predicate a state of thinking. Hence Sir William Hamilton's assertion, conveying, as he thought, an unanswerable maxim, yet couching one of the most confounding paralogisms in logic: "We regard (says he) as conclusive, Kant's analysis of space and time into conditions of thought." "We are conscious to ourselves (he adds) of nothing more clearly, than that it would be equally possible to think without thought, as to construe to the mind an absolute commencement or an absolute termination of time; that is, a beginning and an end, beyond which time is conceived as non-existent. Goad imagination to the utmost, it sinks paralysed within the bounds of time; and time survives, as the condition of thought itself, in which we annihilate the universe, 'Sur les mondes detroits le Temps dort immobile.'"[1] Time the "condition of thought!" Not so, but the *phenomenon of thought;* for thought does not depend on time, but time, as intellectually realised, depends upon thinking. UPON THIS DISTINCTION DEPENDS A WORLD OF TRUE PHILOSOPHY. Hence we say, if thinking be destroyed, time is destroyed therewith. We see, therefore, how it is with all contingent being. All contingent

[1] Phil. Discuss., p. 28.

being, whether existing as material forms, subsisting under determinate laws of operation, or as thinking beings regulated by their respective laws of action, exhibits, of necessity, the characteristics of space and time; and for the reason simply, that form and motion of necessity beget, as their inseparable accompaniments, the phenomena of space and time. Let the conditions, then, under which thinking beings have their thought be removed, and space and time are, in respect of them, annihilated.

We see how this doctrine of the abrogation of time, by the removal of the conditions on which time is hinged, is made applicable to the absolute. It brings us to the unconditioned. As regards the unconditioned, there can be neither space nor time. There cannot be space, because the unconditioned is without form: there cannot be time, because the unconditioned is not only without form, but also without motion. Of the unconditioned we predicate a spaceless infinity, and a timeless eternity. It is simply absolute blankness, pure negation.

But now, with respect to the all-conditioned Absolute: in what way do we reach the Eternal? Do the accompaniments of space and time belong to the personality of Deity? Assuredly they must: we may not answer otherwise: we may not predicate a spaceless infinity, nor a timeless eternity, of Him; for this would be to destroy His personality. We ascribe infinity to Him, but not a spaceless infinity: we ascribe eternity to Him, but not a timeless eternity. A spaceless infinity and a timeless eternity imply absolute negation, and belong to the unconditioned only. The infinity which we ascribe to Him is *illimitation* in evolving new conditions and forms, as the internal and external properties of things; and, as related to the unconditioned, we may add also *illimitation*, in respect of scope for extending new relationships of being. On the same principle, the eternity which we ascribe to Deity is *illimitation*, in respect of all laws of operation; and, as connected with the unconditioned, *illimitation*, in respect of scope for extending and multiplying the laws of being. As we reach the infinite in connection with space, so we reach the eternal in connection with time. As we trace forms, out of which space has its validity, to the absolute source of forms; so, we trace the laws, out of which time has its validity, to an absolute source of laws. It is out of the presence of conditions, that we have the law of motion or of activity aroused. As, therefore, the absolute

forms, out of which all contingent and derived forms are begotten, must needs be found in Deity; so, the absolute conditions, out of which all contingent and derived operations are begotten, must needs be predicated of Deity. Now, forms imply space, and operations imply time: for wherever there is form, there is a boundary-line, which, of necessity, marks space; and wherever there is activity in respect of forms, there is, of necessity, also a boundary-line, which marks transition and succession, that is, time. The space, however, which is thus predicable of the Infinite, is primordially *the only space, and all the space*, primarily in being; and the time which is thus predicable of the Eternal, is *the only time, and all the time*, primarily in being. The character of the personal Absolute, as the Infinite and the Eternal, is that of an all-embracing subjectivity: all-embracing as regards form, which is the foundation of space; all-embracing as regards operation, which is the foundation of time.

In reaching the Eternal, therefore, we reach simple, underived existence, with the full complement of those fundamental conditions, out of which activity springs, just as, in reaching the Infinite, we reach simple, underived existence, with the full complement of those fundamental forms, out of which its images spring. The character of the personal Absolute is thus one of all knowledge, in having the intellectual, as the phenomenal quality of that substance, under which His all-embracing properties subsist; and, therefore, cognition of all conditioned form, and of all law, as connected therewith. This all knowledge, we have already observed, respects an omniscience of what, in absolute *actuality*, is self-existent, independent, uncreated; and also of what, in absolute *possibility*, is dependent and derived, yet equally subjective within the Absolute. The former, or the absolutely self-existent, as being fundamentally the Absolute, stands as simple and absolutely necessary existence: the latter, as being dependent on the absolute and underived self, stands in the same mind as derived or created existence. The former is at once the source and ground of the latter. The former and the latter together, constitute the mind of the Deity. The underived and the derived conditions, which subsist under the unity of Deity, as all-embracing in respect of the evolutions of time, must have subjectively had their validity in the mind of the Absolute, before space and time were objectively manifested to said mind; and

for this simple reason, that no creature-manifestation can hav its primary introduction objectively in the world, but as directl emanating from the subjective mind wherein, and whereby, it wa preliminarily conceived or devised. As therefore the creature manifestations in the world necessarily imply the accompanimen of space, so the original, or type thereof, existing in the ver thought from which they have emanated, must likewise neces sarily imply the principle of space. We wish it to be noted that if *thought* itself, as we have elsewhere endeavoured t describe, is, in all cases, the manifestation, intellectually, o condition with its form, as lodged in the substance of the soul; what follows, and follows as a necessary induction, bu that the economy of the absolute personality, is an economy implying the phenomenon of *space?* Further: we wish it t be noted, that if *thinking*, in all cases, implies the operation or movement of conditioned form, and this in virtue of condition, in the substance of the soul, and therefore manifested intellectually, because the phenomenal quality of soul-substance is exhibited under the characteristic of consciousness; what similarly follows, as a necessary induction, in reasoning from the antitype to the prototype, but that the economy of the absolute personality is also an economy necessarily inferring or implying the phenomenon of *time?* As in regard to ourselves we hold, that every idea is an exact counterpart impression or representation of its objective reality; so, every idea, which correlatively in intellect is just what we call thought, must needs include in it the accompaniment of space. And, for the same reason, every interchange of ideas, as indicating the operation of thought, must needs include in it the accompaniment of time. The analogy, therefore, is complete. As the cognition of things, and the interchange of cognitions, must needs belong to God as the Absolute (for without these, there could not only be no creation-concepts, but not even the exercise of thinking); so, we must needs predicate of God, as the Absolute, the accompaniments of space and of time, as inherent within Him. All space and time, as objectively realised in the universe, are but correlative of the space and time subjectively indwelling in the primordial economy of His own being. When we speak of infinity and eternity, therefore, as applicable to the economy of God, as the all-conditioned Absolute, let us not be mistaken as to

what these terms signify. They imply illimitation in respect of the outlets of the two great categories of being, one having respect to form as embodying condition, the other having respect to the operations of condition; the former comprehending the type of all space, the latter comprehending the type of all time.

We have thus acquired, as we believe, definite and determinate views, with respect to the Infinite and Eternal. We trace up all the forms and laws which are objective in the universe to the all-embracing type, wherein they were primarily subjective. This type we call the Infinite and Eternal, as being illimited in respect of new forms and their operations. This type is also the Absolute, as being the all-comprehending, beyond which there was not any condition in existence originally, and to which every condition, as now subsisting objectively, is directly or remotely traceable; and we trace up all the conceptions of the universe and its details, which have been begotten in the mind of the Absolute, to that simple existence, which is self-existence, underived, independent, necessary being.

As applicable to the unconditioned, the terms infinity and eternity have practically no distinction of meaning, for all is absolute negation: the one implies negation in respect of *form*, and the other implies negation in respect of *operation*. If infinity is negation in respect of all condition, eternity is negation in respect of all movement: the one is spacelessness, the other is timelessness. As applicable to the all-conditioned, the Infinite is *simple existence, implying illimitation in respect of condition;* for beyond this, no condition primarily is: and the Eternal is *simple existence, implying illimitation in respect of operation;* for beyond this, no operation primarily is. We repeat, therefore, that, as pertaining to the Absolute, space is neither more nor less than the manifestation of "the form of God," embodying those conditions out of which the Infinite is displayed; and time is neither more nor less than the manifestation of the mind or thinking of God, and which, as comprehending in its embrace all the evolutions of time, as objectively displayed in the universe, before objectivity was established, is rightly characterised as the Eternal.

Thus we can apprehend how space and time apply to the Absolute, as the Infinite and Eternal; and also, in what respects the application, as belonging to Him, differs from the application

thereof, as belonging to us. With respect to us, the application stands in the way of acquisition—*of acquisition from the world;* and a consequent gradual enlargement of mind, as we become increasingly acquainted with the things of the world, and exercise our conceptions to the best advantage. With respect to the Absolute, the application stands in the way of inherent primary possession, as the all-conditioned, and the alone absolutely conditioned; and consequently, an entire allness of mind with respect to conditions, *actual* and *possible.* The space and time which characterise the external world, is but an objective correlative of the space and time which, in the exercise of the Divine mind, came to be subjectively embosomed in the Absolute. It is thus that the created concepts of Deity, when objectively set forth in the arrangements of the universe, become the source of thought to us, and comprise the elements of knowledge, which we thence subjectively acquire. These elements are *wholly* within the Absolute; hence the universality of His knowledge: these elements are but very *partially* within us; hence the limitation of our knowledge. The omniscience of the Absolute, respecting all the developments of time in the world, as these are produced throughout the consecutive course of being, necessarily implies the practical omnipresence of the Absolute; for the facts and events yet in the bosom of futurity to us, are all before Him, as already transacted and fulfilled.

CHAPTER IV.

REASON IN THE ABSOLUTE.

SECT. I.—THE PROCESS OF REASON IN THE DIVINE MIND.

THERE is only one explanation to be given of the process by which Reason operates; and if we have arrived at the true explanation of such operation in man, we have ground (and it is the only possible ground) on which to rest our apprehension of the process, whereby it operates in God. We can know nothing of the mental operations of Deity, but by analogy with

the mental operations of humanity. Nor is it possible for any different representation of the Divine mind to be given to us, whether by scriptural revelation or otherwise; for we can conceive no other state of mental illumination than that of conscious intelligence, and we can conceive no higher state of mind than that of perfect reason; or the perfect harmony in intelligence, of things perfectly understood. We can therefore apprehend nothing, and sympathise with nothing, and realise nothing as perfect, which does not square with our reason. Statements may be given of Divine operation, which our apprehension does not overtake, and in this sphere of limitation cannot overtake; yet even in respect of these, we assume—we cannot but assume—that said attributes are yet exercised in accordance with, and in subserviency to, right reason; that is, that they operate in the harmony of a perfect adjustment of means to ends.

But it may be said, that, with respect to ourselves, we have the exercise and the experience of our reason, under circumstances very different from those which must needs pertain to Deity: it may be said, that ours is a complex constitution of body and of soul; and that, according to our own showing, the operations of our reason, in this constitution, are mutually dependent upon each other; and further, that in this constitution there is a want of absolute unity, in as far as the body dies and evanishes, while we have grounds to suppose that the soul may survive, and continue to subsist: if, therefore, Deity be an absolute, uncompounded unity (it may be asked), in what way can the exercise of reason in us, as we are now constituted, lead to a cognition of the mode in which reason is exercised in the Deity? We believe the question is not so utterly beyond our compass, as may at first sight be imagined. The first essential is, thoroughly to understand what, in truth, reason actually is; and, secondly, how, in point of fact, it actually operates in ourselves. Unless we have ascertained these two points, the procedure to inquire into the mind of Deity is at once illogical and presumptuous. We have already answered these requisites: we have seen that reason is the harmonious adjustment of existing elements in the accomplishment of a purpose; and we have seen that its operation in man, as connected with a material sphere, is dependent upon the analytic and synthetic powers of a cerebral apparatus,

as having an affinity for impressions of the conditions of said material sphere; which impressions, being invariably carried to the sensorium, where they necessarily stand as ideas, are cognised by intellect as the pabulum or object of its knowledge. Now the question comes, How, and in what way, from this point, can we reach the conditions of Deity?

Our first step is to inquire, whether it be possible for us to ascertain, how it will be with the operations of human intelligence, in that condition (which we shall take for granted), when the soul-constitution shall stand forth in its own integral oneness, and yet in the possession of its own essential activity? We call to mind how it is with respect to soul-formation now, in this our present sphere, viz., that the substance which we call intellect is, from being an entire blank, gradually replenished and stored up with ideas—ideas of the *me*, as having its primary foundation in a bodily economy; and ideas of the *not-me*, as based in the economy of the world apart therefrom; and ideas of the relationships pertaining to the one and to the other: and we call to mind how, after being more or less fully replenished with ideas, as the representations of conditioned forms belonging to a material sphere, and in connection with a material apparatus or instrumentality of operation, it gets released therefrom by that event which we call death—an event which we are certified destroys the body, and thereby breaks the connection which had theretofore subsisted betwixt the soul and the world. Granting, then, that the soul-economy, as thus formed, and fashioned, and equipped, in dependence on a particular bodily economy, and its experiences, and its discipline in the world, shall stand by itself, something like an absolute unity, in another sphere—absolute, in as far as, when once formed and constituted, it is then necessarily broken off from its connection with this world, and if, operative at all, must needs in that case be no longer dependent upon this world: granting, we say, that, after the dissolution of the body, the soul shall yet abide, a bundle of associated experiences, a simple undivided unity, having its own conditions, that is, its own ideas, that is, its own intelligence or knowledge, that is, its own intellectual selfhood, as the same had been erected in connection with the body:—granting, we say, all this, the question arises for consideration, how is this intellectual personality, as thus formed, and as thus (so to speak) discharged from

the body, to operate, when standing *per se*, without any bodily economy, such as it had originally possessed, as the medium of its activity? Supposing, in the first place, there were no objective economy at all adapted to the circumstances and condition of the soul, as thus separated from the body, the question immediately arises, could the soul, in *that* case, have any inherent activity, any insulated self-consciousness of its own? We are persuaded it could not; and for the reasons, that, in the first place, under all our present experience, when the communication betwixt the world and the soul is broken off by the sleep of the body, there is then no consciousness whatever; and, in the second place, sound philosophy teaches us, that all our knowledge, constituting the subjective selfhood or personality, stands as the *static* constitution of the me, of whose parts, as elements of intelligence, we have no immediate consciousness, save only when excited by the recognitions of them, as reproduced through the medium of the cerebral organisation; and, in the third place, we see, as age comes on, and the bodily powers become feeble, that also therewith approaches a second childhood, even in the case of those characterised by a well-furnished and vigorous mind:—all which proves to us, that intellect, when cut off from an objective economy, capable of exciting its consciousness, has no inherent conscious activity purely its own, as apart therefrom. There cannot, in the nature of things, be an operative power in the soul, as thus constituted,—that is, as utterly insulated, and absolutely cut off from all objectivity. As well might we expect the seed, which we have just reaped, to begin an activity, and to show a productiveness, so soon as we have gathered it into heaps in our granaries. It cannot be that it should be otherwise than dormant, so long as it is cut off from a sphere of operation, in which alone its functions can play.

But granting that a sphere adapted for its operation is appointed for it, and that the soul is in course ushered thereinto, and that a conscious activity is by affinity therewith excited in its intellectual operations, the question as yet is, how is reason necessarily exercised in this new and different sphere? First of all, let it be noted, that the position of the soul, as presently appended to the body, for the grand object of being filled with the truth derivable from a material sphere of conditioned forms, is essentially different from the position in which it must stand,

as a simple individuality, in the unity of its own substance, with its own acquired structure. In this latter state, as a self-conditioned unity, it is obvious enough, that whatever may be the characteristics of the objective economy with which it shall stand connected, and whatever may be the form, under the relationship of the soul, which therewith shall be established, the soul shall *then* assuredly be in essential possession of its own inherent or innate ideas, that is, the ideas of its own acquired constitution. It shall then be to the objective world in which it is placed, precisely as the body, in our present economy, is to the objective world in which it is placed. And if the soul-substance is of such a nature, as to permit of union with our present gross and material frame, as we know to be the case at the sensorium, it may be so developed, under a spiritual framework, as to be adapted for operation under the affinities of a constitution corresponding thereto. Now, recurring to the fact, that reason consists in *the harmonisation of relationships existing within, to relationships existing without*, what we hold, and cannot but hold, is this, that the realisation of a sphere, of any sphere of relationships, according to reason, can simply and properly consist of the adaptation of the conditions of the soul, to those set forth as the conditions prescribed as suitable, for the best possible state and well-being of the soul. And we have no grounds for supposing, that the principles which shall give birth to intellectual activity, will be at all different from those on which we account now for all the operations in the world. In fact, we know of no other principle, we can devise no other principle: nor is it necessary; for this principle, the principle of affinity, is perfectly sufficient to account for all the intellectual activities which shall prevail in another and a future state of existence.

It is of the uttermost importance thus to notify what, according to the clearest analogy, must needs be the general constitution of things, in a stage of more elevated character, when the present shall be swept away. We have, first of all, the fact, that whatever be the sort of condition which the soul has realised in its connection with the body, it must needs be dependent for its operation, its conscious activity, its living intellectual energy, upon the sphere of objectivity into which it shall be brought; and that its happiness or wretchedness must, of course, depend upon its proper adaptation and meetness for the same, as afford-

ing elements of high gratification, or the contrary, for the subjective conditions which may happen to characterise the soul. We see how the principle has its application here. We see how the material frame of objectivity is directly conditioned, so as to meet the wants of the body demanding its supply; and how it is well or ill with the body, according as it is subjectively in a healthy state, and is rationally and properly made to appropriate to itself such things, and such things only, are suited to its circumstances. It is but the extension of the same principle in its immediate application to the soul, in that living existence to which it is destined. The soul will then stand forth as an already conditioned object, in relation to a world, in harmony with, and adapted to, the wants of a well-conditioned or healthy soul; and the operation of reason in that sphere, can only be, as we have said, the harmonisation of the elements without, to the high requirements of the best conditions that are within.

Still, it may be urged, we have advanced but a single step towards the goal of which we were in search. We have pointed out how it is possible, and by analogy how it is likely, the soul will operate in a sphere adapted to its more refined nature; and we have pointed out, that said operation is essentially one of necessary dependence upon a frame of things objectively and independently subsisting: how does this lead us to a view of the mental operations of Him who is not, and cannot be supposed, depending upon an objective world for His subjective thinking? The only answer which it is possible for us to give, is simply this, that what we call God, in His primary absoluteness, must needs be a subjective world in Himself, possessed of all fundamental conditions, in such relationship to one another, that they are in constant and in inherent activity, and this according to the harmony of the highest and best adaptation; and that the principle or spring of said activity, is the internal relationship in which said conditions are made to stand to one another, which relationship is regulated by the interests of the *purposes* which are to be served thereby.

The notion, then, which we are brought to entertain of the Divine nature and character, in the exercise of its inherent prerogatives, it is perhaps not impossible to set forth, as resting upon links of evidence, which it is not easy, on the one hand, to set aside, as a logical inference, nor, on the other hand, to reject,

as an unlikely conclusion. We therefore entertain the hope of its finding acceptance with the patient, candid, and truth-loving inquirer into the highest, and most exalted, and most glorious themes, which can present themselves to human imagining. It is, with us, simply a rise from the contemplation of the image, to an apprehension of the type. Man must be apprehended in his relative unity, before we can apprehend God in His absolute unity. When the body is shuffled off, and the soul is left alone, then, and only then, is man's intellectual personality a perfect unity; and then, as we have already noticed (though we have not gone out of our way to prove this), it is an indestructible self, *so far as it is filled with Divine things;* and under what is called resurrection, or the application to it of the sphere by which alone it can be revived, susceptible of development into a spiritual or more refined body, with its mind or intelligence incapable of separation therefrom,—the one being an integral part of the other.

The idea, then, which we have of the personality of Deity, is that of a spiritual and fundamentally refined economy of absolutely conditioned form, with its intellection *inseparably* conjoined therewith. Said spiritual substance we must regard as an all-conditioned selfhood, having within itself what no other personality can lay claim to, viz., the absolutely primordial conditions of all thinking—those conditions whose very characteristic is that of essential, underived, inherent existence, and the consciousness of which, therefore, must be regarded as that of essential, underived, inherent intellection. When, moreover, it is considered that, in this primodial state, the essential and inherent conditions of Deity constituted the foundation and source of all conditions in being, and therefore the absolute type from which alone it was possible to derive other conditions, as by creation; it is obvious, that the intellection of Deity encompassed or embraced all conditions of being absolutely in existence. Further: as all the foundations of cognition are found exclusively in Him; so, whatever new conceptions are formed, they must in Him be formed in adaptation to a purpose of propriety, *i.e.* according to reason; and they must needs be formed, first, *in* Him, and, by consequence, all arrangements arising out of these must be at once cognised *by* Him, before they had a being in the world. In short, the Deity must be omniscient; and the omniscience of the Deity, by strict argumentation, is found derivable from the

fact, that He is the absolute foundation of all the true conditions of being in the universe. The omniscience of Deity arises from principles belonging to Himself; and not because He has to look out of, or beyond Himself, to what is transacting in the universe. He no doubt looks beyond Himself, and beholds the operations of the multiplicity of existences brought into being by creation; but, in so doing, it can only be to find, in actual realisation *objectively*, those phenomena of which He is otherwise cognisant *subjectively:* it can only be as beholding all the evolutions of nature from the beginning, in their external validity, according to the respective laws which Himself had prescribed in His own mind: it can only be as perceiving the whole category of time, as it stands connected with a material sphere, in harmony with the determinate arrangements of being, conceived in His own bosom in eternity, when a material sphere had as yet obtained no outward foundation.

SECT. II.—THE DIVINE REASON IN INTRODUCING THE WORKS OF CREATION.

The question we would now set ourselves to answer is this: Taking the fact as granted, that there was a time when Deity sat alone, as the whole complement of being—when there was no condition objective to Himself, and nothing, therefore, which was not comprehended within Himself—when there was no consciousness whatever, but the Divine consciousness only—*can we state under what circumstances creation had its commencement?* Can we give valid and sufficient reasons for a constitution of things external, or objective to the subjective Divinity? This question, we think, may be answered. We have simply to bear in mind, that Deity, being absolute, and absolute unity, He was, first of all, in essential possession of all actual conditions; and, secondly, in essential possession of the consciousness of these. These facts constitute, of necessity, the basis of all further intelligence; for out of these all conception springs. Remembering, then, that what we may term the fundamental conditions, that is, the essential conditions, of Deity are unbegotten, and therefore the intellection of them unbegotten—remembering that these conditions are the source or spring, from which alone all other or contingent conditions can be primarily derived—remembering that invariably it happens, that new conditions are introduced

into being by a new combination of those already subsisting—remembering that reason consists in *the harmonious adaptation of conditions already existing to fulfil some scheme, or design, or purpose*—remembering that a scheme, or design, or purpose, arises in the mind as a felt want, requiring to be supplied, or as a work proper to be done—remembering that, in Deity, there is the power of combining subsisting conditions in fresh relationships, and, by consequence, of introducing new conditions; and, at the same time, that there is an intellection of all possible combinations, and, by consequence, of all possible conditions, susceptible of being introduced into being,—we can readily understand why the Deity, in the exercise of His mind, should establish creation in the world.[1] Indeed, it is difficult for us, in contemplating the Divine activity and the Divine prerogatives, to suppose the non-existence of creation externally. True it is that Deity, in His mental operations, might have retained the whole glory of His thoughts within Himself, and have luxuriated, so to speak, in the infinite domain of grandeur which He had excogitated from the inherent attributes of His own being; but then the question comes, if it was good, very good, to behold this inwardly as a mere contemplation, must it not be also very good to behold this outwardly as an external reality; and if so, did not this of itself constitute a sufficient reason for establishing a creation externally? Nay, does it not appear that the very glory of all the grand picture of being which stood represented in the mind of Deity, arose chiefly from the fact of its being a possible reality—a reality whose validity might be established externally? We cannot conceive that the pleasure of creating such a panorama of being in the mind merely, would have been so enhanced, had it been a picture realisable to the thought alone. This enhancement of the Divine picture of creation, therefore—this possibility of establishing it as valid reality objective to the Divine mind—formed a sufficient reason for such an actual realisation. For it is obvious, that if there was a satisfaction in introducing it into the mind as a mere conception, the satisfaction was enhanced, indeed could be said to be complete, only by its introduction as an outward representation beyond the mind.

We see, then, abundant reason for the manifestation of a world of creation external to the mind of Deity. We first see the

[1] See page 149.

grounds out of which the world must necessarily spring: we next see the essential elements of being (so to speak), without which causality could have no operation. There can be no causality without the pre-existence of conditions, on the one hand, and the due association of conditions, on the other hand. These two essentials, of necessity, fundamentally belonged to Deity, before a single element of creation could be mentally conceived. Let us see, then, what motive could properly prompt the Deity in establishing the work of creation. *It was not necessity.* We have sufficiently shown already, that *there is no inherent necessity for the constitution of causes.* We have shown that necessity comes into existence only *after*, or rather *under*, the constitution of causality. We have shown that, *before necessity can exist, causality itself must exist;* for necessity is an accompaniment of causality. We have shown also, that before causality can exist, conditions of being must exist, and intelligence of the relations of things in themselves, as the very foundation of reason, also must exist, without which there could be no proper association or combination of conditions. Now, as regards the essential conditions of Deity, there was no necessity, either physically or morally, that they should be made instrumental in accomplishing new phenomena, because there was no necessity for said conditions entering into new relationships. All *might* have subsisted for ever in the integrity and simplicity of their essential being, and therefore without an effort at creation. But, in such case, the motive arising from the law of *propriety* would have been disregarded.

Of all motives which prompted the mind of Deity, that arising from propriety must alone have fundamentally availed for the constitution of the world. It could not have been, as is sometimes stated, the happiness of the creature; for there was no creature then in existence—nothing but Deity Himself—nothing, therefore, susceptible of either happiness or misery. The motive, therefore, could by possibility be found in direct connection with Deity alone. The theological view of the motive is characterised as *glory:* the philosophical view of the motive is characterised as *propriety.* There never can be a discrepancy between glory and propriety. Glory is the characteristic accompaniment of propriety. Propriety, therefore, lies at the very lowermost foundation, as the motive of creation. We have elsewhere described what propriety is. It is the fundamental characteristic of moral reason: it stands

at the very basis of all morality: it is the *harmony of good with good.* Propriety is the first law of reason, when entering the province of morals: it is, therefore, the first law of Deity, as being the absolute reason. Propriety is fundamentally *a suitable relation of true conditions* to an intelligent being. As regards the Deity, therefore, in introducing the work of creation, there was, first of all, the excogitation of the new concept, viz., the object to be desired—the object which, when contemplated in thought, is regarded with complacency and satisfaction as a *proper* object of thought—the object, as having entire harmony in the mind with self, and with all relative objects of thought—the object, therefore, to be willed into being. This, however, is confined to the processes of pure Reflection.—Next comes the external manifestation of the excogitated forms. First of all, there must be a ground to work upon—an unconditioned ground, susceptible of the conditioned forms *simpliciter*, as they had been excogitated and manufactured intellectually: in short, therein there must be the capacity of certain fundamental conditions, intrinsically effectual, as external elements, for association into complex conditions,—that is, for their *harmonious* adaptation into a fitting relationship, according to the pattern already wrought out and depicted in the mind. All consisted in the production of conditions *intrinsically good* in themselves, and in an adjustment of them *intrinsically correct.* Without both of these, there cannot be uniform propriety. There may be a perfectly harmonious adjustment of conditions; but, if the conditions are not themselves intrinsically true, perfect propriety is wanting. And, on the other hand, there may be intrinsically true conditions, but not suitably adjusted; in which case, also, propriety is wanting.

Propriety, as being the fundamental characteristic of right reason in morals, is indispensable in every variety of moral principle. Without propriety, there could be no exercise of justice: first, because, without propriety, as applicable to the Creator, there could be no creature in existence to whom justice could be extended; and, second, because, without propriety, as applicable to the creature, justice to the creature would be an impossibility. Propriety is the basis of all righteousness, as being the harmony of true conditions. Moreover, without it, there could be no goodness; for the law of harmony lies at the foundation of all goodness. There can be no correct morality at the

expense of propriety. The glory of all morality consists in its thorough keeping with propriety.

We see, then, under what circumstances creation must have taken its rise. Physically, there was no primordial necessity for the establishment of creation. Intrinsically, the existing conditions, being the conditions of Deity, and constituting the totality of absolute conditions, and therefore constituting the subjective Absolute, might have remained without any effort at creation. But propriety, the first of all the virtues, and standing necessarily at the foundation of correct action, urged this as *a duty due to Deity Himself;* for when the establishment of creation came to be regarded at all, the glory thereof must needs have been reflected to the mind of Deity; and this alone was *sufficient motive for its introduction:* this alone was sufficient to excite a will for its realisation. It is to us obvious enough, how will would be excited thereto. There can be no will but under a mental contemplation of the object desired, and of the effect produced by its relationship to self or something else. *We* cannot conceive the possibility of the contrary; for the higher the intelligence, the more forcibly does this maxim press itself. It is only when an object is in contemplation before the mind, and thus becomes an object of desire, that will is excited to have it realised. Here, then, we have what appears to us abundant evidence in respect of what we might term the beginnings of will for creation. The whole course of Divine will, therefore, as pertaining to the entire scale of creation, from its commencement to its termination, is simply the preservation of the law of harmony in the things created, first, with respect to the Creator Himself, and, secondly, with respect to the creatures in their relationship with one another. It is the law of wisdom and goodness,—in other words, the law of propriety, the law of justice, the law of goodness. The term *law* is neither more nor less than the due *regulation* of causality, by the precise nature of the conditions, and the precise nature of their combination or relationship. The term *will* implies more directly the *emotion*, or motive whereby said law is carried into operation, out of the combining ideas. There cannot be a separation betwixt *emotion*, as a momentum or force, and *law*, as a rule or regulation of its operation in one direction rather than another; for there is no force but what operates under the affinity of related conditions; and as there are no conditions which

are not subject to some limitation or another, so there is no force but what must necessarily be subject to, and regulated by, the limitation of the existing conditions, out of which it springs. It is in the world of mind, precisely as it is in the world of matter. In the world of mind, ideas are the conditions absolutely indispensable to the manifestation of will as a force: it is under the combination of ideas, in some relationship or another, that an emotion, or momentum, or force, arises, which is termed *will*, where it prevails over every other force; yet in such a way, that it must needs be characterised by the limitation of the ideas themselves, as thus combined; that is, its law of operation as will must necessarily be regulated by, and confined to, the boundary-line of its own conditions.

We believe it is in Deity, as it is in the world of Deity; for we trace this characteristic throughout all nature, physical and mental; and we trace it up to its source. We cannot but conclude, that it must be in the type as it is in the antitype: it must be in the original as it is in the offspring. By no logic or reason can it be possibly inferred, that the movements which generate the will of Deity can be radically different from the movements which generate the will of humanity, in respect of the nature of their causality. There is but one principle of causality displayed throughout the whole range of being: that one principle of causality must have a foundation and a source: it could not spring into being without these: we have no help but to trace its analogy to Deity. If there are those who will have it otherwise, then they first of all beg the question, and beg it without any sufficient grounds: secondly, they set forth a principle in God, to which there is no analogy in nature, no image, no reflection: thirdly, they reason neither inductively nor deductively; for induction is inferring principles by the aid of analogies, and deduction is inferring conclusions by the aid of analogies: there is no reasoning but in the harmonising of analogies. We have sound philosophy, therefore, on our side in judging as to the character of the Divine motives in the production of the world, and the exercise of the Divine will in prosecuting said motives; and it is no small satisfaction to know, that so far as we characterise these, they are perfectly in accordance with the word of revelation: indeed, they go to confirm and to expound that word with a satisfactoriness not otherwise possible.

SECT. III.—REASON IN THE EXERCISE OF DIVINE PROVIDENCE.

§ 1. *Liberty, the Hinge on which Providence operates.*

As regards creation, things stood forth precisely as they were made, precisely as God had willed it, each distinctive object having its own peculiar law of operation, according to the conditions assigned to it by the Creator. It could not be otherwise. And, under this necessity of existence being what God had appointed, *liberty* was given to every creature, which liberty consisted in the entire freedom with which each was permitted to maintain its own peculiar law of existence. It is on this point of liberty that the doctrine of Providence hinges. There cannot by possibility be an understanding of the nature of providential dealing with the creatures of the world, till there is first an understanding of the nature of freedom, as assigned to the creature and to the world. Before we can speak of the dispensations of Providence, we must definitely settle the question: *Did God give to His creatures, severally as distinctive species, a precise condition as characterising each, and therefore a precise law of being as the law of its nature?* There can be no question as to this. This point is substantially proved to every observer of nature: this point is satisfactorily settled to every reflecting logical mind. Every department and branch, both of Physics and of Physiology, abundantly show it: the whole arena of Chemistry is an illustration of it. The category of mind, no less than that of matter, gives evidence of this. In fact, *all science depends upon this as a fact.* Were there no fixed laws, there could be no determinate science. When we say *fixed* laws, we mean, laws determined by certain determinate conditions, and regulated by their combinations—laws, therefore, which are fixed to said combinations, and which have no operation but out of these—laws which, because fixed thereto, do therefore necessarily vary precisely as the conditions may vary, and the relationship may vary in which they happen to stand to one another. We receive it, therefore, as an axiom, that the Almighty and All-wise Author of existence has assigned to each species of His creatures a precise circle of existence, as the precise and determined circle of their being,—of their law of activity, within which they are confined, and beyond which it

is impossible for them, in their respective spheres, to extend. In short, there is to every creature a certain line or boundary, which may be denominated their law of limitation, and under which every creature must be subservient, as the very necessity of its precise combination of particular conditions. There will be deviation within what we call the *circle* of its modification; just as there is deviation, marked by a variety of particulars, as belonging to the same genus: still necessity, first of all, is established, in respect of every species as such, that *it* must be confined to itself, and never can be confounded with a totally different species. A dog, that is born a dog, must always remain a dog, and can never be other than a dog. A horse, that is born a horse, can never be other than a horse. A man, that is born a man, must always remain a man, so long as he lives. There may be many particulars, within the generic circle of being, which limits the precise species termed dog: there may be the spaniel, Newfoundland, terrier, and a host of others; still the dog, whatever particulars may characterise him, must, as the *fixed* law of his being, remain a dog. There may be many varieties of horse, in like manner; and there may be many varieties of monkey; and there may be many varieties of man. But the horse must remain the horse, in some one of the possible particulars of his tribe; and the monkey must remain the monkey, in some one of the particulars of its tribe; and man must remain man, in some one of the particulars in which it is possible for man, as having a definite range of modification, to exist.

Now, it is upon this *determinate circle of necessity*—a circle, as we see, that in every case admits of a line of beautiful gradation in the modification of its conditions, and so gives scope for that indefinite variety which so pleasingly fills the universe—a circle that prescribes the same character of law throughout all its modifications:—*it is upon this determinate necessity that liberty is founded.* Without necessity, in the first place, there could be no liberty; for without necessity there could be no law; and liberty without law, is a word without meaning. The very first point, then, of the great Author of nature, was to establish a determinate circle, or general constitution, for each species, as a matter of decreed, of fixed necessity, confined to a certain general law of operation, and susceptible of no other. Upon this necessity, He established the *freedom* of law,—such a freedom, that wherever

law was imposed, it should be *uninterrupted* by any foreign elements, in realising its own proper phenomenon,—its own specific results.

Here, then, comes the question: If such a necessity on the one hand, and, in connection therewith, such a liberty on the other hand, pertain to the arrangements of God in creation, how could irregularity come in to disturb the harmony of those arrangements? A proper question; and the direct and immediate answer thereto is found in the decreed principle of *deviation* within the boundaries of a generic circle, and, consequently, of the possibility, and even of the danger, that modifications of condition would not always be attended with harmony of relation. But ere we proceed to answer the question fully, let us see in what particular departments of God's world irregularity is found to spring. If we look to the globes of space, as they measure their movements with respect to one another, we can discover no irregularity there. The laws of their transition are so determinate, that science can foretell an eclipse, to the very moment of its occurrence. And why is there no change in the phenomena of Astronomy, and no irregularity in the uniformity of its results? For this reason, that the conditions which are the measure of force, and the relationship which is the law of its regulation, are maintained unchanged. It is only when some modification takes place in the causal elements, or in the relation in which they stand to one another, that any change can be effected in the phenomenon achieved. This principle is illustrated throughout, amid all the works of creation. If we look to the processes of vegetable and animal development, as each produces offspring after its kind, we can discover no irregularity there, save as introduced by man. In short, whatever lies beyond the boundary of human interference, presents a precise and definite character of action. It is to human interference that all irregularity is to be traced in the works of God, and in virtue of human mismanagement or perversion, that untoward and unhappy results are brought forth in the world.

So far, then, we narrow the range of our inquiry. As human acting is always traceable to human willing, the question is reduced primarily to this, *How comes it that irregularity could, under the harmony of Divine arrangements, creep into the workings of the human will,* as one of the noblest of the works of God?

What is meant by irregularity? We mean, disharmony of operation: we mean, perversion against its own proper nature: we mean, in short, what is termed evil; *for evil is neither more nor less than the perversion of what is intrinsically and essentially good*;—there could be no evil, unless there was originally that which is good. We set ourselves, then, to answer the question, *πόθεν τὸ κάκον*? The answer is perfectly possible, and we think we can assign the answer.

§ 2. *The Origin of Evil.*

We have said, that every creature was primarily made with its own peculiar disposition as the law of its nature: we have also said, that the creature was made subject to, *i.e.*, capable of, a modification of the conditions of its constitution, within the limits of a prescribed circle; and, consequently, subject to a modification, within said circle, of its disposition, as the law or tendency of its being. We have said that, as regards man, the laws of his mind are no less determinate than those of the animal creation generally, or even of the insentient vegetable world, or even of the inanimate physical economy. All operations are conducted, throughout every department of nature, upon the self-same principles. The only difference is, that the higher we ascend in the scale of creation, the more complex do the laws of the creature become. Will, or volition as the expression of will, is the ultimate phenomenon of the congregated elements, as ideas, which come more or less into play in the mind, as influencing the disposition of the intelligent creature. In the case of the lower animals, will is brought out precisely as natural disposition or native craving is influenced by the surrounding elements, which for the time happen to bear upon it, or to prevail thereon. In man, a set of additional elements enter in, as restrictive of disposition thus influenced, which additional elements are termed moral principles. What moral principles are, how they arise, and on what they depend, we have already discussed; and we shall not break the thread of our present inquiry to study these further. What we would here particularly notice is this, that the constitution of man, as arranged by the Divine Architect, for will, is a disposition of a definite sort, subjected to the influences which are in the world, yet withal governed by such moral and religious elements as each intelligence may happen to have ac-

quired. Let the difference betwixt him and the lower animals clearly appear. Will, as regards the lower animals, is *the prevailing emotion, arising from the combination of ideas (as elements from without) with the disposition or fixed mental condition of the creature.* Will, as regards man, is *the prevailing emotion, arising from the combination of ideas with his natural disposition, and further, as this prevailing emotion is controlled or regulated by moral or religious elements.* There is a far greater complexity of elements attending the generation of will in man, than exists in the formation of will among the irrational creation. This very circumstance renders the balancing of human will a matter of very delicate operation, as compared with the brutes. In the case of the latter, one emotion comes into collision with another emotion, simply when opposing impulses run counter to each other, and the prevailing emotion constitutes will in the circumstances. Thus a beast or bird of prey is prevented from rushing on his victim when danger threatens himself in attempting to do this; and, moreover, all his emotions are confined to those bearing on the *me.* In the case of man, the operation of will is a matter of far greater complexity, by reason of the greater variety of elements which come into play; for there are not only the elements bearing on the *me,* but also those bearing on the *not-me,* which may be interposed in settling a contest in the carnal or worldly department; and, over and above these, there are moral and religious considerations, which come to govern the appetites, desires, or affections, according as these are proper cravings or not. Besides, one emotion may come into collision with another, when, from ignorance of consequences, he is mentally in doubt which to follow, and when the alternative may be pregnant with the most important results. In this latter case, he may rush into evil unknowingly, that is, into consequences fraught with mischief, by reason of a combination of elements which should never have been brought into a relationship which necessarily produces evil.

Seeing, then, under what circumstances human will is excited and exercised, the question comes to be, What is evil in connection therewith? That cannot be termed moral evil which is committed in ignorance, and with a righteous intention; for such exercise of the will leaves the mind in a state of integrity with itself. That only can be called moral evil, as regards the party

who wills, which presents the emotion of the inferior department, as comprehending carnal or worldly cravings, lording it over the emotion of the higher department, as comprehending moral or religious demands. Be it observed, that the grand law of humanity is that of submitting the laws of his animal economy, and the laws of his worldly relationship, to the demands of moral law, or, as the case may be, of the law of religious principle, as implicitly believed. This position, viz., the ascendancy of moral and religious principle over all inferior tendencies, points out the constitution of man's true and proper nature in the world.

The question, then, for solution is, how to explain *the perversion of one's nature against the law of its own being:* can law come to operate against itself? We cannot find a better illustration than the actual case of man's fall, as recorded in the Holy Bible. Our first parents received the Divine command, "Eat not of the fruit of the tree which is in the midst of the garden, neither touch it, lest ye die." This injunction, coming from One they knew and acknowledged as their Master and Lord, was for the time a law —the law of religion—to them. When we say, *a law* to them, we mean, that this command was an operative principle within, and would be rigidly carried out, according to their understanding of its meaning. The breaking of this command would be evil—it would be the frustration of the law of God, now put within them. The breaking of it was impossible, unless a contrary principle could be infused into the mind, so as to take hold of the affections. The point is, how was this possible? for it is a rule without exception, that *the mind cannot, at the same moment, stand similarly affected to two opposing principles:* in laying hold of one, it must of necessity relax hold of the other. The sacred history informs us, that the devil attempted to implant a contradictory principle in the mind of Eve; but, in so doing, we observe, he cunningly sought to remove that which had been previously lodged therein. The philosophy of this transaction, then, lies in the *dislodgment of one principle, as a law of conduct, and the substitution of another and an opposite principle, as a contrary law.* That either should operate, when freely received into the mind, consists with the essential nature of causality.

Let us see how any principle, we have once received, may be removed. First, when the evidence, upon which we have received it, is seen to be doubtful; and, second, when the evidence,

upon which the contrary principle rests, appears satisfactory; and, thirdly, when the attractions, by which the contrary principle is surrounded, are peculiarly strengthened. This last element plays a very important part in the reception or rejection of principles of action. The part acted out by Satan, in this remarkable conference, must be allowed to be clever in the extreme. *First*, he pretends to speak with authority—as one who perfectly knew the truth, and had no hesitation about it. *Second*, he pretends a zeal for her truest interests, that man might become wiser and greater. *Third*, he pretends all respect for the Divine name and requirement. This very position would place Eve in a condition of receptivity; for, in listening to one who assumed reverence for God, her supposed harmony with God remained undisturbed. *Fourth*, having thus secured the ear of the woman (her receptivity), he throws a doubt upon the reality of the injunction,—*i.e.*, upon the correctness of her apprehension,—whether it had indeed been given as she supposed. Here was the very commencement of the turning point. *Fifth*, he appealed to the strongest incentives of the carnal and worldly nature (for there were of necessity these in unfallen man, and these were without sin when they were in perfect subserviency to the law of morals and of religion). "The fruit was beautiful," hence the desire aroused to touch it: "the fruit was sweet," hence the desire to taste: "the fruit would bring wisdom," hence the desire to possess it. Eve was, *for the moment*, thrown off her guard. Had she maintained her assurance that there could be no doubt whatever on the matter, Satan could not have succeeded. But she gave heed to what she, no doubt, supposed was an instructor for good; hence the injunction of Heaven, as a principle or rule of action, was for the time dislodged: room was, therefore, made for the implantation of another principle, and this the more easily, because of the adventitious attractions with which it was accompanied, as an object of desire. In short, the principle upon which the law of God hinged for its operation, was thus thrust out; and the contrary principle, upon which the transgression of this law hinged, was then substituted: this being the case, *it became as natural that Eve should now eat the forbidden fruit, as it was before natural that she should abstain from it.* The whole transaction is to us perfectly explicable upon philosophical grounds; as, indeed, every operation of mind must be: for there is but one

principle of causality—one mode of explaining phenomena, whether in the sphere of matter or in the sphere of mind.[1]

But, it is obvious that, while philosophy is thus perfectly capable of expounding the origin of evil, so far as the change wrought in humanity is concerned, evil had its being anterior to man, in the apostacy of fallen angels. We are not in possession of the details, in connection with which certain angels came to contradict the law implanted in them; yet, even in their case, philosophy, we think, is capable of pointing out under what circumstances the possibility of this *might* have happened. We have only to remember how nicely balanced sometimes contending emotions are, one of which must needs give way to the other. The question is, how could contending emotions arise in a purely angelic state, with no one prompting to deceitfulness? In this way: Suppose lofty beings, created in the possession and enjoyment of exalted prerogatives, were commanded to strip themselves of these, would there not be contending emotions?—an emotion, on the one hand, to give scope to the call of the Great Lawgiver, as the Author of religion; and, an emotion, on the other hand, to retain what constituted the distinguishing privileges of their being. Any one will see that this latter emotion must naturally arouse every argument which could be urged in its favour; nor would it require much ingenuity to show how (doubts and difficulties being, at the same time, groped up against the command referred to) said emotion should carry the triumph, and thus complete the rebellion. Whatever circumstantials might exist—and of these we could suppose abundance in the case we have stated—the

[1] The principle of Regeneration is the very counterpart of that of the Fall; and he who can explain the mental process which takes place in regeneration, precisely explains, though in the reverse order, what happened at the fall. In regeneration, the very first requisite is to be convinced of sin, and to repudiate this as the law of the soul's operation. Room is thus made for righteousness, as the law of new obedience. It is simply the principle of substitution, that is, the removal of one condition of thought (idea), as the prevailing principle of action, and the implantation of another and opposite condition of thought, to bear sway in the heart. In regeneration, *repentance* is the term employed to denote the abandonment of a sinful principle, and *faith* is the term employed to denote the reception, instead, of a righteous principle. Man's fall consisted in the abandonment of God's principle expressly communicated, and the reception, as a substitute, of the devil's principle, by an artful contrivance. The removal of ideas, and the implantation of opposite ones for them, are perfectly explicable.

question would resolve itself into this: Shall the emotion, which carries with it simple authority merely, or the emotion which recoils from the self-abnegation of the highest personal privileges around which all happy associations are twined, be the prevailing one? The very fact that we can readily understand *how a contest should arise*, will go far to explain to us the possibility of a victory on the one side, as well as upon the other.

Of course, in tracing the origin of evil, whether in human or in angelic natures, we are bound to understand that a *free* causality is in operation: we are bound simply to suppose, that the ingredients constituting the causal elements are supplied, and that man on the one hand, and angels on the other, being endowed with reason, that is, with the prerogative of receiving or rejecting what is offered, according as this might be felt in *harmony* with their cognitions of truth; they would properly be regarded as responsible for the application, or non-application, of the principles placed before them.

The question now is: did God know beforehand that such contest of opposing emotions would take place in the mind of His rational creatures; and further, did He know, that in this contest, the inferior emotions would gain the ascendancy over the more refined and elevated: in short, did God foreknow from the beginning that His rational creatures would come to pervert the very law He had implanted in them; and, if so, to what does the foreknowledge amount in respect of the fore-ordination of God? There cannot be a doubt respecting the intimate knowledge of Deity on this head, for, we regard it as a maxim, admitting of something like demonstration, that all *actual contingencies*, as well as all *decreed necessities*, must be perfectly known to Him before the foundations of a created world were laid.

§ 3. *The Divine Connection with the Introduction of Evil.*

That there are contingencies to the mind of Deity, as well as necessities, will not bear to be disputed. The former we characterise as *possibilities*, arising from a possible modification of conditions, or change in their relation within a prescribed range, as the limited scope respectively assigned to different species for modification or change. The range or limit of the circle as such, we characterise as something determinately fixed by unchange-

able *decree:* the particulars under which the general law of said range might be manifested, we regard as *undecreed.* The latter exists in the bosom of the former. There is, first of all, the decree, imposing certain fixed boundaries of a prescribed general operation: this decree admits of, and contains within it, a system of contingent details or particulars, as simple possibilities. We have endless illustration of this. God hath fixed that there should be an unchangeable revolution of seasons; but, under this decreed fixture, He has permitted, as possibilities, an indefinite changeableness of weather. God hath obviously fixed an unchangeable limitation of species; but, under this limitation, we have an indefinite variety, all traceable to one common parent. These varieties we call contingencies,—contingencies that were made simply possibilities, which were sure, in certain circumstances, of becoming realities, but which were no further decreed as realities, than as the circumstances on which they were known to depend, were foreknown, or decreed as realities. In the vegetable world, the apple, pear, plum, etc., were each created with its respective conditions, as a *genus*, or common parent of numberless tribes, which might be made to spring therefrom, according to the soil, climate, training, etc., happening to be afforded. The created conditions set forth under some one particular or another, were a necessity of their being—a necessity, the bounds of which they cannot pass; but the modifications by which variety of sorts is attained, under said created conditions, are *contingencies in the bosom of said necessity.* The conditions which go to constitute a triangle, viz., three sides and three angles, are a necessity in respect of a triangle—a necessity the limitation of which it is impossible the triangle, as such, can pass: yet, within the bosom of this necessity, are certain modifications, which are properly contingencies, as an acute, an obtuse, or a right angled triangle. And, in the use of this figure, we foreknow, first, that some particular or another thereof must be employed, and under certain relations, one particular only to the exclusion of the others.

We would apply this illustration to the case of man in the hands of God. When man was created, his *general* conditions as man, were determined; and, out of the constitution properly termed *human*, it was decreed, as an impossibility, that he could pass. Yet, within the limits of this constitution, there was a

circle of indefinite modification permitted, such as nourishment, climate, and training, might effect. The modifications thus possible, were contingencies to the eye of Deity, when man was made—contingencies, many of which were foreknown to be realities, because the circumstances under which they must arise were foreknown; and, *vice versâ*, many of which were foreknown, would never become realities, because the circumstances producing them, were foreknown, as not to be realised. That man would come to run counter to the highest law implanted in him, was perfectly foreknown before man was created, because all the circumstances were perfectly foreknown. And how man would act amid all the circumstances, was perfectly foreknown: in short, before man was made, it was perfectly foreknown that man would fall from his righteousness into sinfulness. And all this stands in thorough consistency with the fact, that man was made in the best possible conditions, in their best possible relations, for a constitution of humanity; and, further, that man was supplied with all needful elements to maintain his integrity unimpaired. It is simply to be noted, that in connection with every needful element essential to preserve his obedience, he needed also a trial of his firmness under provocation. The possibility of a modification of character, was a contingency that lay within the bosom of his decreed constitution. Had he been so constituted, that there was no possibility of undergoing a modification of his constitution in this respect, then a process of trial would have simply been mockery, and all responsibility would have been eviscerated, and all the varieties of character of which man is susceptible, would have been precluded. *The contingency of the fall was, therefore, an indispensable accompaniment, attending the very decree of his constitution.* The fall was, of necessity, made a possibility, which *might* happen; not a possibility, which *must* happen. It was foreseen that it *would* happen. In respect of direct and positive foreordination, the fall lay in the category of contingencies—of *foreordained contingencies.* But foreordained contingencies are not foreordained necessities: foreordained contingencies must all be referred to the category of mere intelligence. God knew from the beginning what of them would happen, and what of them would not happen. Foreordained contingencies are those phenomena that arise from those examples of causality, the institution or formation of which was by no means an absolute neces-

sity, and which are, strictly speaking, foreseen, without being directly predetermined.

We hold, then, that this question is perfectly susceptible of being satisfactorily solved, not, indeed, without painstaking patience and study; because, it is a difficult and intricate question. Were this not the case, it would have been solved and settled long ago; and, this being the case, let no man think he will master it, even when described, without a heedful examination of every step he takes. The fact is, while there is necessarily a close connection betwixt foreknowledge and foreordination, it has not been sufficiently attended to, that there is likewise a marked distinction betwixt them. While there is a connection, every one must allow that there is a distinction. It is necessary to recognise this distinction. Indeed, there is no way of coming to the full solution of this question otherwise. Foreknowledge, then, belongs to the category of *intelligence:* foreordination belongs to the category of *will.* Primarily and absolutely, will depends upon intelligence. There is, perhaps, no intelligence without will; yet there can be no will that does not depend on intelligence; for will arises out of an assemblage of known conditions.

Now, let us trace the mutual interdependence of foreknowledge and foreordination in the course of Divine providential arrangements for the world. Let us, first of all, take the things of the world as they were actually created. As they were created, they must be regarded as a decree—a resolution of the Deity to fix their characteristics in being after a certain fashion. How came this will so to establish them? We answer, from the preliminary knowledge, that such conditions, in such relations, would be suitable in themselves, and satisfactory to the Divine Mind. The will to establish them as the objective objects of creation, arose, as the desire for that which, being in harmony with Deity, reflected glory upon Deity. Hence the foreordination of creation. Secondly, from this foreordination of creation there ariseth a grand picture of foreknowledge—of foreknowledge of the operations of created objects. It may be truly said, that in *this case,* God foreknows, because He hath already foreordained. God having foreordained so many distinctive circles of being, now foreknows whatever phenomena can arise from the relationships of things which He hath created. Thirdly, we

have now to observe, how from this foreknowledge again, a further foreordination is effected. We have said, God foreknows all possible contingencies, both those which shall happen, and those which shall not happen. Foreknowing those which shall happen, and which are therefore to become realities, He can at once found resolutions or decrees adapted to them. Take the example of the fall of man. We have said, that it was among the foreordained contingencies, and not a primary necessity, in God's creation: God simply foreknew that it *would* become a reality. This foreknowledge required, therefore, the foreordination of what was necessary to prevent His work from being for ever spoiled; and hence, the foreordination of the Lord Jesus Christ, as the foundation whereon the integrity and preservation of the race should be based—a foreordination formed before the beginning of the world. Such an illustration may be multiplied a thousand fold, by what is daily taking place among ourselves. Why does a certain person, on entering upon a long voyage, resolve or decree to take a life-preserver? Because he foresees the possibility of shipwreck; and this purpose is made to hinge upon the foreknowledge of said possibility, as if it were a foreseen reality. Why does a certain person resolve to leave a sum of money to maintain the bridge which he has erected? Because he foresees it as an actual contingency, that the bridge will give way. This resolve, or decree, was made before the foundation of the bridge was laid, yet the foreordination was dependent on the foreknowledge. God foreknew, from the beginning, how it would be with man generally, throughout all time; hence the foreordination of every man to his final destiny, whether of weal or of woe, before the foundation of the world—a foreordination which does not, in the most distant degree, interfere with the entirest freedom of the creature in the course of his operations through life, which are, at the uttermost, but a set of foreordained *contingencies*, and disposed of, therefore, in the mind of God, so far as they are a set of foreknown *realities*. Truly does sacred Scripture intimate, that *decree must be "according to foreknowledge:"* it must necessarily be so: it is a simple assertion of the fundamental principle, that *will must be according to intelligence.*

We see, then, that the Divine reason in Providence, is emphatically according to the purest intimations of our own highest reason. As reason is the harmony of conditions in a relation-

ship of adaptation to one another, so the Divine reason in creation is the harmony of the best possible conditions, under their best possible adaptation for the fulfilment of the *beau ideal* of an immediate creation; and, the Divine reason in Providence, is the harmony of such Divine conditions, introduced among the actual conditions of the world, as are essential to stay the ruinous tendency of the latter, and ultimately to operate in undisturbed freedom, for the accomplishment of the *beau ideal* of a developed creation in righteousness.

§ 4.—Objections Removed.

Two objections may be stated. One is: If Deity perfectly foreknew the fall of humanity, and the consequent ruin brought upon the race, why should he persist in the creation of man?" Another is: "Why, since evil has arisen, is it permitted to prevail so unrestrainedly and alarmingly on the face of the earth, for so many generations, without any immediate steps being effectually taken to have it put down?"

With respect to the first objection, the answer is simply this, that since the fall of man was not at all a Providential necessity, but merely a foreordained contingency—a contingency which, for the sake of the due development of the creature to perfection, it was absolutely indispensable to *permit as a possibility;* did it follow, because God foreknew that said possibility would become a reality, that He was thereby to be prevented from introducing the best possible conditions, under the best possible relations, as a constitution for man, and therefore alone worthy of the Creator? Right reason says *no*, provided, in connection with this foreknowledge of the fall, there was at the same time foreknown the means, whereby this creation of man might, notwithstanding, be carried to a glorious consummation! In this light, the objection is most thoroughly and satisfactorily answered. Deity provided for the accomplishment of His magnificent purposes in all their entireness, on the ground of this catastrophe, as efficiently as if he had foreseen that no blemish would intermediately tarnish the fair proportions of his handywork.

With respect to the second objection, the continued permission of evil in the world, the very answer, which goes to explain the permission of its *origin* as a fact, goes to explain the permission of its present *continuance* as a fact; and, the answer in either

case is, *the ordination of a free causality in the world.* Let us suppose, that to prevent the *origin* of evil in the world, Deity had put forth His arm, and stayed man from disobedience (and nothing was more easy, as a physical possibility), what would have been the consequence? Why, nothing less than a Divine inconsistency; for, it would have been a Divine interference with the freedom of law which He had Himself established. He had ordained, that a law should be permitted to operate undisturbed; and to have Himself disturbed its free operation—to have Himself interposed to restrict its free action, would have been tantamount to a declaration, that the law was insufficient, and required to be amended, or that the law was imperfect, and should never have been established. Such, therefore, could not be. Deity saw what was about to happen, and had absolute power to prevent its happening; yet, for the sake of His own *faithfulness*, He must not interpose. The fall of man, therefore, when rightly received, is the most remarkable example of Divine faithfulness, which the world has ever beheld. There was, in one sense, every conceivable inducement for God to interfere to keep man from rushing upon death; but, if this could be only at the expense of Divine integrity, as running counter to the rule which Himself had established, *no interference was possible.*

The self-same reason must account for the positive non-interference of God, as regards the permission of continued evil in the world. Every thing in the world must be carried on by the constitution of a *free* causality. Deity may supply, and does supply, all the elements essential for staying the current of transgression, and for rectifying the operations of man, according to the laws of perfect righteousness: Deity, consequently, supplies the motives for a new course of thought and will; and whenever a new course of thought and will is entered upon, through the use of said elements, it is to Deity that we are indebted; still, after all, it must be left to a creature endowed with reason, to apply and employ the elements offered and recommended. *This is the fundamental prerogative of reason:* this it is which constitutes the responsibility of the rational creature. The freedom of the rational creature is absolutely essential to his responsibility; and the freedom, and consequent responsibility, of the rational creature, consists in the power to make the best possible use of the elements within his reach, for his own true improve-

ment, in harmony with what he knows of the Divine Mind. There is no such thing as Deity interfering to thwart the established ordination of causality in any department of conditioned being. Wherever a relationship of particular conditions is formed in causal association, the causality of that precise relationship *must* be effected, and no other can be, whatever be the character of the result or phenomenon brought out. This remark is illustrated in the arena of mind, precisely as in that of matter. Will *must* come forth, according to the combination of ideas present in the mind for its generation, just as any force in the physical world arises out of the assemblage of elements for its production. The reason why men have been so tardy in apprehending this truth, lies in the fact, that they have generally failed to take into account the restrictive and controlling elements of moral principle, as well as those more immediately springing from physical causes. Here, then, lies the freedom of the rational creature, when left to the unrestricted use of his reason, that *in every exercise of his reason, as foreknowing the result of employing the elements within his reach, he may use or reject said elements beforehand, according as the foreseen result is to him proper, and therefore desirable, or not.*

In order to effect a change upon the moral aspects of unregeneracy, all is being accomplished which, in deference to this freedom, can *ordinarily* be attempted with success. In the scheme of religious discipline set on foot through the Christian dispensation, for the regeneration of man, there is comprehended, first of all, an assault upon the economy of sin as built up in the soul by its contact with the flesh and with the world; and, secondly, a substitution of the elements of grace to build up an economy of righteousness; and, until the economy of sin begins to be broken down in some department of the soul, the economy of grace cannot be begun to be reared in that department. There are times of operation, in the prosecution of this wonderful undertaking—*mollia tempora*—which must specially be chosen, if success is to be achieved therein: these times are when the law of sin in us may happen, for the moment, to be dormant—that is, when, for the moment, its cravings may happen to be satisfied, and the passions which characterise our sinful nature may thus be temporarily asleep. It is, then, if, at any time, that an attack should be made upon the sinful element, because it is

then that the least opposition will be made thereby: it is, then, that a principle may be so lodged in the soul as to operate for the *repression and removal of sinful elements.* This is the way of God in perfect consistency with, and in entire subserviency to, the liberty of the rational creature. It is at such moments only that men will admit an element that will fight with a besetting sin. The besetting sin (whatever it may be) being for the moment dormant, is not disturbed, and its cravings are not thwarted, by the reception at said moment of a principle, which tending to repress the outlets of sin, tends to ward off the danger, and ruin, and distress, which will be inevitably produced by the sin. The picture, therefore, of an *escape* from misery, constitutes a powerful motive for the reception of that element whereby the sin may be put down or removed, which is the source of the misery; and, consequently, whereby the escape from misery may be achieved. This, as we have before noticed, prepares the mind for *reception on the other hand,* of that element whereby that truth may be acquired, which, as the grace of God which bringeth salvation, is the spring of our everlasting happiness, and, consequently, an element of desire, wherever there is faith in its efficacy.

Now, the impartiality of the providence of God in His dealing with men for a future state—in His reprobating some, and in his electing or selecting others, in respect of a final destiny, is to us made most abundantly plain, and established upon the most obvious and incontestable principles of reason. Taking the view of sacred writ, that, on the one hand, "God calls upon *all* men everywhere to repent," and that, on the other hand, "God has chosen *some* in Christ before the foundation of the world, that they should be holy and without blame before Him in love," the process is, that which will alone square with our common-sense-convictions. The commentary upon this view is found in the passage, "whom He did foreknow, He also did predestinate to be conformed to the image of His Son." What have we here intimated to us? First and foremost, we have God's *general call* to the world, without respect of persons—a call in which there is no election, no selection, no predestination of any persons at all—a call to what?—to the only course which it is possible for God to address to sinners—a call to *repentance*—a call to ALL to turn from their sin. This is the very first assault which God makes upon an unregenerate world. What then? Why, of

course, He foresees what will be the result of this call—of this influence brought to bear upon the world, in order to repentance. He foreknows those brought to repentance, and those left in impenitence: he foreknows the state of mankind under *this* general interposition of His providence.

Let us see, then, how this foreknowledge of contingencies gives rise to a decree of fore-ordination, just as the former decree of fore-ordination gave rise to foreknowledge. The former decree of fore-ordination, viz., the decree to call the world in general to repent, gave rise to a foreknowledge of the state of the world, under the influences employed to produce repentance. And now, a foresight of the state of the world, as divided into two classes, the penitent and the impenitent, gives rise to another decree, viz., the predestination of these characters as thus represented to the mind. The penitent are in a state of preparation to be made believers; hence, out of all mankind they, and they only, are selected to be made holy, as being the only parties capable of receiving the truths of the Spirit of God, whereby they are sealed for redemption! *They* receive a *particular call*, as being alone the proper parties, prepared to become vessels of mercy fitted for glory. The impenitent, on the other hand, are of necessity reprobated as vessels of wrath, fitted only for destruction; being vessels, which, in their natural state, are incapable of receiving the things of the Spirit of God, without which salvation is impossible. It is, therefore, rationally obvious, according to the Scripture text quoted, "whom God did foreknow as penitent, in answer to His general call; them did He predestinate or resolve to call particularly, for the purpose of having them conformed to the image of His Son:"—it is rationally obvious, when parties, in this way, come before the mind of Deity, as contemplating all the realities to be brought about, amid the contingent developments arising from his word, that he should dispose of the characters, according to the ends for which they were respectively adapted. We have, therefore, no more difficulty in receiving the doctrines of election, and of reprobation, before the foundation of the world, than we have in accounting for the work of selection, or of rejection, among ourselves, of the elements of our daily life. When properly understood, it abundantly appears how such doctrine must necessarily belong to all the arrangements of an all-perfect Reason.

We would have been glad to prosecute the discussion of this

very momentous and most interesting theme, with detailed minuteness, believing it to be perfectly susceptible of human handling, and of satisfactory adjustment, in entire harmony with every statement of the inspired record; and, in reconcilement of every difficulty, which fairly can present itself to human reason; but such procedure would carry us entirely within the boundaries of revealed theology; and, thereby, beyond the limits imposed for this treatise. Indeed, we have necessarily entrenched upon this branch of learning, in prosecuting the subject to the extent we have now done.

APPENDIX I.

MANSEL ON THE PHILOSOPHY OF THE CONDITIONED.

PROFESSOR MANSEL has defended the views of Sir William Hamilton against Mr. J. S. Mill's Examination of that author's philosophy; and, therein, especially hath he overhauled the principles which, in his estimation, go to constitute the Philosophy of the Conditioned. We shall, as briefly as possible, review these principles.

Mr. Mansel sets out with a quotation from the Republic of Plato, in which that ancient author proposes, as the highest aim of philosophy, "to ascend to the unconditioned, and thence to deduce the universe of conditioned existence." He also presents the problem under the two factors of the *ego* and the *non-ego:* the object being to reduce them to one.

We take exception to this representation. The object of Plato was fundamentally to disregard the ego: in the first place, to take the ego as he found it, viz., an intelligent subject, and to prosecute a search into the objects of its own intelligence, and, by a due analysis of these, to reach the Unconditioned, and thence to deduce the Conditioned sphere of existence, with which we are surrounded. The problem thus proposed is at once clear, simple, and logical, demanding first a process of *induction*, so as if possible, through present conditions, to reach the primary foundations of the world; and second, a process of *deduction*, so as, if logically possible, thence to conclude the present conditions, as the phenomena of the world. The ego, in all this, came not immediately into Plato's scheme; and very properly; because, if the problem were duly investigated, the collateral circumstances, under which a thinking subject comes to exercise its powers, must form an element in that problem. Plato took the world of things as he found them, the objects of

his consciousness; and his problem was to dissect these as they presented themselves to his Intelligence; and, if possible, through these to reach the foundation out of which they spring. Our author starts with the *ego* and the *non-ego*, as "a pair of conditioned existences;" and he says, his object is to "reduce these two factors to one." He is not logically entitled to start with any such purpose. We are primarily supposed to be in a *terra incognita;* and not exactly knowing at first the dependence or non-dependence of self, as a conscious being, upon the not-self, we naturally prosecute our inquiries, first of all upon the objects which naturally come up in our consciousness, before we take into account the characteristics of the subject which thinks. All men do this: self, as a subject of thought, is the last exercise of mind. Moreover, how can we know, *a priori*, that the problem thus presented by Mr. Mansel is a possible one. Does it not antecedently rather bear the features of impossibility? Does it not resolve itself into a proposal of achieving nothing less than a destruction of all distinction betwixt the subjective and the objective? Does it not prescribe to itself the task of confounding *existence* with the *thought* of existence? Does it not lead to the dilemma, that fundamentally, existence must be reducible to thought, or that thought must be regarded as existence? And hence, if fundamentally and primordially these are one and the same, are we not thrown into the inextricable perplexity of accounting for their separation, as practically we find them separated: *i.e.*, of accounting for a difference in their nature, as practically we find them to be radically different, that is, of shewing why things are essentially not one, which yet are essentially one? The Problem of Professor Mansel we hold to be an impossible one: it carries in it the elements of a *reductio ad absurdum*. But let us hear the problem stated.

"If the *something* of which I am conscious is a separate reality, having qualities and modes of action of its own, and thereby determining or contributing to determine the form which my consciousness shall take, my consciousness is thereby conditioned, or partly dependent on something beyond itself." "And, on the other hand, if I who am conscious am a real being, distinct from the things of which I am conscious, if the conscious mind has a constitution and laws of its own, by which it acts; and if the mode of its consciousness is in any degree determined

by those laws, the *non-ego* is so far conditioned by the *ego*: the thing which I see is not seen absolutely and *per se*, but is a form partly dependent upon the laws of my vision" (p. 5). To the former alternative, as here represented, we have no objection to offer; but to the latter alternative, we have the most formidable objections. We allow the premises, but deny the conclusions. That I am conscious, and a real being, and distinct from the things of which I am conscious, that my conscious mind has a constitution and laws of its own by which it acts, I entertain no doubt whatever; and yet we deny that the *non-ego* is conditioned by the *ego*. No doubt our author adds a hypothesis, which fully we cannot accept, viz., that "the mode of our consciousness is to be regarded as determined by its own laws." There are many respects in which the mode of our consciousness is determined by the laws of the mind itself; but fundamentally the *mode* of our consciousness is determined by the external world. In all perceptive consciousness this is the case. The mind can no more determine its percepts, than it can determine itself not to be. So also in matters of memory, which are primarily stored up; and so also in the conclusions of reason, which are the necessities of its condition. But our author would say, "Such are its own laws, by which it acts." Be it so: then we have simply to agree that, while the ego is conscious, real, distinct from the *original* of the things of which it is conscious, and has a constitution and laws of its own, which determine its modes of consciousness, in all reflective operations, yet it is not for a moment granted that "the thing which I see is not seen absolutely, and *per se*, but in a form partly dependent on the laws of my vision." We grant, indeed, that the things we see are dependent upon the laws of our vision; for, if I had no vision, I should not see them; and, assuredly, I can see them only as the Creator has opened to me a channel of receptivity for the representation of them. But if two or three shall agree in the uniformity of the representation which each has of the same object, are they not bound to admit that the object thus descried is something which stands *per se*, and is independent therefore of the laws of their vision; and this more especially, if each separate sense not only confirms the verdict of the other, but is accompanied in its very intimations with this characteristic.

Our author goes on: "The first step towards the reduction

of these two factors (the *ego* and *non-ego*), to one may obviously be made in three different ways. Either the *ego* may be represented as a mode of the *non-ego*, or the *non-ego* of the *ego*; or both of a *tertium quid*, distinct from either" (p. 7). In regard to the first, he thinks there is no escape from *materialism*; and concludes, in that case, that "the brain secretes thought, as the liver secretes bile." In regard to the second, he thinks that, upon receiving it as the correct hypothesis, *Idealism* can only be inferred as the truth; and that the apparent intercourse we have with a material world is, after all, the result solely of the laws of our mental constitution. In regard to the third, he thinks that, upon receiving it, real existence is to be sought for "neither in mind as mind, nor in matter as matter," but in a system where mind and matter disappear, and merge in something higher than both.

We cannot agree in these sweeping conclusions. That the *ego* should be represented as a form of the *non-ego*, the author allows as perfectly a logical sequence: but what then? Why, says he in that case, the *ego* must needs be a lump of *matter*, like the *non-ego* by which it is moulded! Is this conclusion at all consistent? Is there no connexion betwixt matter and spirit? Is not matter, on the one hand, influenced and moulded by spirit? And is not spirit, on the other hand, influenced and moulded by matter? If we grant the question of matter, of which we have the consciousness, does it follow that there is nothing but matter in the universe; and if we assert the prerogative of spirit, of which we see the results, does it follow that matter has no bearing thereupon? The dictum of our author, if it amounts to anything, amounts to this, that there can be no counter influence between matter and spirit; and, consequently, he would go *a priori* to deny the actual relationships betwixt these, of which every man is profoundly conscious, as the very facts of his experience. Again, that the *non-ego* should be represented as a mode of the *ego*, destroys not only materialism, but runs counter to the deepest convictions of every man, as regards the material world. No man can get rid of the conviction, that the things which he sees outside of him are actually there; and to hold, because he has the perception of them, that they are therefore wholly within him, is nothing else than the aberration of an ill-founded reason, an abberration arising from

confounding the *thing* with the *representation* of the thing. The third form of Philosophy, which he calls "Indifferentism," is, if possible, still more out of the field of logic than either of the former, in as far as it refers existence neither to mind, nor to matter, but to something else of which we know nothing at all; and, in point of fact, gratuitously manufactures existence, as we are conscious of it, into certain ingredients as to which we can give no account whatever.

Our author says, "those several systems are almost necessarily identified with inquiries concerning the nature and existence of God" (p. 10). He is right: we cannot trace existing conditions to the principles from which they emanate, without making progress to the first great principles out of which all things of necessity spring; and, consequently, without finding in these that embodiment of first principles which, under natural religion, we properly call God. But how does our author reach his goal? He says, "if all conditioned existence is dependent on some one first and unconditioned principle, either that principle must be identified with God, or our philosophical speculations must fall into open and avowed atheism" (p. 12). Here is a dilemma so strange that we should like to hang from neither horn of it. We should not like the necessity of atheism as our alternative, seeing every conclusion of our reason, on the facts and phenomena of the world, intimates the interposition of a purposing and adjusting mind; and as little should we like the unconditioned "to be identified with God," because, in the first place, it appears to us impossible that a purely negative foundation can, *per se*, be the cause at all, much less the absolute and exclusive cause, of the positive; and, secondly, because the unconditioned, *per se*, could be nothing more than an indefinite impersonality, unconscious and purposeless, a vacant pantheism; yet inconsistently conditioned, in as far as, by the very terms, it is divested of the conditions out of which alone operation can be manifested.

"But (says our author) at this point the philosophical inquiry comes in contact with another line of thought, suggested by a different class of the facts of consciousness. As a religious and moral being, man is conscious of a relation of a personal character, distinct from any suggested by the phenomena of the material world, a relation to a supreme Personal Being, the object of his religious worship, and the source and judge of his

moral obligations and conduct." "How (he asks) is the one absolute existence to be identified with the personal God, demanded by our religious feelings?" (p. 12). We can predicate the absolute impossibility of such an identification in the sense he holds; for the simple reason, that the very idea of a Personal God involves in it the very conditions which the unconditioned, by its very terms, disowns and denies. And our author sees this incongruity at a glance. He says, "Our conception of a Personal Being, derived, as it is, from the immediate consciousness of our own personality, seems, on examination, to involve conditions incompatible with the desired assumption" (p. 14). And he gets into the category of time, as inferring a sequence of relativities which seem to him to be inconsistent with the Absolute. And he quotes a number of distinguished writers, who define eternity to be without succession, and that in God is "a present, where past and future cannot be." Such a God has been very heedlessly posited by the schoolmen, and agreed to by our modern divines. It is demonstrable, however, that such an eternity as is here described can only exist in the absolute stillness of Nothingdom. Yet our author takes up this view of the Absolute; and no sooner does he view it than he recoils from it, and seeks some accession to it, as a *terminus ad quem*, duly reached from a consideration of mind, as the roof-tree of his own personality; for he says that "God, to be conceived as a person, if his personality resembles ours, must be conceived as acting in time." He allows that the two ideas of God, as existing *out of* the category of time, and yet *within* the category of time, are contradictory; and he takes refuge in a distinction made betwixt Reason and Faith, that is, between the power of *conceiving*, and that of *believing*; and, farther, he leaves it "as one of those divine mysteries which permit us to believe *that* a thing is possible, though we are unable to conceive *how* it is possible" (p. 19). The appeal is made to our ignorance, not to our knowledge (p. 30). We are disposed rather to search into our foundations more thoroughly under such a discrepancy, and to see whether our conclusions on the one side, or on the other, are fairly drawn. Of one thing we are assured, that reason, rightly grounded on either side, cannot be the contrary of itself.

Mr. Mansel is obliged to depart from the logical position that

man, in search of his Maker, must look for one to whom he can refer his own mind, one who should be a prototype of himself, as an Intelligence endued with reason, one after whose likeness he might regard himself as framed. His dogma is "a confession that the knowledge which man in this life can have of God is not a knowledge of the Divine nature as it is in itself, but only of that nature as imperfectly represented through analogous qualities in the creature" (p. 22)—a statement which opens the door to any theory however wild and wandering. He quotes largely from the divines of the primitive church, as well as from modern divines, as to the incomprehensibility of God. But this is not the question. The question is as to the attributes of God: Can we discover these? Can we discover what they are? And, to this end, can we discover the principles which rule in the utterances of Law, as they are revealed to our understandings in the course of our worldly experience? and can we, in consistency with all that we otherwise know of God, not only trace up said principles of law, as the ruling powers of his nature, but see them as grounded in that nature, and, therefore, as the essential foundations of his being? "Our thought (says Mr. M.) must not be taken as the measure and limit of our belief: we think by means of relations and conditions, derived from created things: we believe in an absolute being in whose nature these conditions and relations, in some manner unknown to us, disappear in a simple and indivisible unity" (p. 29). We might fairly enough protest against the inbringing of faith, as founded in revelation, into the arena of reason, as founded on facts, and concluding from an induction of facts. But, being perfectly satisfied that the rational induction from the facts of creation, and the rational interpretation of the statements of scripture, are in no way contradictory, all we have to ask is, that views may not be fathered upon us, on the one hand, as the dogmas of faith founded on revelation, and that conclusions, on the other hand, may not be insisted on as the dogmas of reason founded on nature, which we are entitled fairly to repudiate. What we say then is this, that while we do reach the unconditioned as an absolute, by negativing all relativity, we cannot for a moment regard this as *the Absolute*, in its proper and positive sense, in as far as it is an absolute without personality, without form and void, and *per se*, still as death; while,

on the other hand, in reaching an absolute, through present conditions, to the primordially conditioned, we come to *the Absolute*, as the embodiment of those conditions out of which all inferior conditions may be well supposed to flow.

Hence the Professor, like his great predecessor, takes refuge in ignorance, as if the fact of our ignorance were in itself an argument for our faith; and then the pantheist on the one hand, and the positivist on the other, come in for their separate reprehension, as if there were no alternative, apart from either of these systems, wherein science can fairly find a refuge. Of Pantheism, we have seen that it leads to absolute negation; and the Unconditioned of Sir William Hamilton, and of our author, were it not that they have illogically left it out of the region of all conceivability, must needs rationally be the very basis of pantheism. Of Positivism, it is regarded as fundamentally a scheme of pure materialism; and Sir William is quoted on the question of materialism, and as affording the best argument against it. Let us hear the argument on this subject: it stands forward as the tocsin of alarm, the *horresco referens*, to frighten men from looking to this question with calm and considerate thoughtfulness. We may possibly discover how far we may humbly follow Sir William Hamilton as thus quoted.

"If in man intelligence be a free power, in so far as its liberty extends, intelligence must be independent of necessity and of matter; and a power independent of matter, necessarily implies the existence of an immaterial subject, *i.e.*, of spirit." Intelligence: free power: necessity: matter: spirit:—all important terms! What do they mean? Our maxim is *omnis disputatio a definitione*. Intelligence here means *mind*, *i.e.*, Intellect discerning or apprehending something, and being itself *aware* or conscious of something *ab extra*. There cannot be intelligence without an object: hence, Intellect, *per se*, must be without consciousness, if there be presented to it no object of cognition. Intelligence, therefore, implies the presence of two distinctive elements, the *subject* which receives the representation of an object, and which has understanding of it *when* it receives this; and the *object* of cognizance, which forms the element of erudition, or body of knowledge *when* the impression of it is communicated or conveyed to Intellect. What then about Intelligence being a "free power?" We hold that there is no

such free power in nature, as the author desiderates. By freedom he means an utter and entire independence of aught beyond the simple subject operating. We know of no such freedom; and we challenge a single example of it. We know only of the freedom which pertains to any particular law: law, therefore, must fundamentally have its own inherent necessity as such, as *being what it is:* otherwise there could be no law. Before, therefore, we can speak of its freedom, we must regard it, when existing, as being necessarily what it is. Now, there is no law known which does not consist, or have its reality, unless under the presence of at least two separate or distinctive elements. What, therefore, about "Intelligence being independent of necessity, and of matter?" Independent! Why, the very term Intelligence marks of necessity, and embraces *a reference to the thing* of which the Intellect has an insight. "Independent of necessity!" What necessity? If Intellect has intelligence, surely it is a necessity that it should be *what it is*, viz., intelligence. But, "independent of matter." Is it so? If matter be the very object of Intellect's ken, how should it be independent of matter? See what sort of principle the author lays down as the very foundation of his reasoning! Nothing less than that which must absolutely frustrate all possibility of our ever reaching the law of causality; for he posits a phenomenon, *e.g.*, the intelligence of matter, and at the same time gratuitously withdraws the matter of which there is intelligence! He thereby establishes the rule, that *there shall be no connexion* betwixt the thinking subject and the object thought of, which is really tantamount to saying that there shall be no connexion betwixt our thinking and our thought! Again, it is said, "a power independent of matter necessarily implies the existence of an immaterial subject, *i.e.*, a spirit." We have endless proof of a power independent of matter, so called, although not in the way here indicated; and we have also abundant evidence that Intellect is properly and emphatically that which we understand by the term spirit. But what is mind, and what is matter? We apprehend that, duly understood, they must needs be regarded as merely different departments of conditioned substance. The more we penetrate into the attributes of substance, and the substratum of substance, *i.e.*, into the *substans*, the more shall we come to be convinced that both matter and

intellect are but different categories of substance, each having its foundations in the self-same pure spirit. That which we call matter is substance endowed with certain crass properties, which are perceptible by means of our external or material senses; but no man with sufficient reflection can, for a single moment, imagine the existence, the subsistence, and the sustenance of these material properties, without being convinced that there is what is properly spirit at the foundation, as giving the properties their expression; for how, we ask, can any quality be maintained for an instant? There must needs be a potentiality at the foundation, without which nothing can be manifested. The question then of spirit reduces itself to this: *what kind of spirit;* for all is based on spirit throughout the universe? Matter, as corporeity, is but one of the features of spirit; and Intellect, as non-corporeity, is another of the features of spirit. No one ever knew of matter, but it was endowed with some kind of spirit as the characteristic of its utterance; and that kind of spirit, whatever it be, is always, and invariably regulated and measured by, the conditions imparted to it. It is the same with Intellect: the only difference being that fundamentally the latter belongs to a wholly different category of existence. The category of matter has its foundation laid in that quality, whose peculiar conditions shew forth a world of *unconscious* properties, known as existence. The category of mind, again, hath its foundation laid in that quality whose peculiar conditions we do not perceive outwardly, but which we are aware of inwardly and subjectively, when we are sensible, as personally *conscious* of existence. Both have thus their foundations laid in the absolutely unconditioned, or pure spirit of eternity, and both are so arrayed, that the quality which makes the conscious, is made the recipient and consequent correlative of the quality which constitutes the unconscious, the former being what may be called the subjective side of existence. But let us return to our author.

"If then the original independence of intelligence on matter in the human constitution, in other words, if the spirituality of mind in man be supposed a datum of observation, in this datum is also given both the condition and proof of a God" (p. 38). Hamilton, followed by Mansel, founds the presence and subsistence of spirit upon an independence of matter, and upon an

essential separation from matter, as something not at all to be mixed up with matter, and as having therefore no essential connexion or union with matter. There can be no greater mistake, we believe, than that of thus making an essential separation betwixt matter and spirit. We believe there may be spirit apart from and independent of matter; but we believe it impossible for matter to exist apart from, and independent of, spirit. The views which have been usually entertained of matter, as a sluggish and inert mass, are certainly quite erroneous, and the views which have been usually entertained of spirit, as something absolutely imperceptible, are equally imperfect. And it is equally beside the real point to say, with Berkeley and others, that spirit is something which thinks, as if fundamentally there did not exist in nature, spirit that is essentially unconscious. We regard the true definition of *pure* spirit, that is, of the unconditioned, as that whose essential and inherent attribute is the absolute capacity of power, or the capacity of absolute power. Hence, *conditioned* spirit is that whose essential attribute is power, power measured and regulated by the conditions or properties of its being. These conditions may be developed in what we term material qualities, *i.e.*, qualities to which we ascribe the characteristics of density, colour, odour, flavour, resonance, and with these, or some of these, mould or form, or the capacity of this, as its external configuration. But, obviously enough, the conditions, with which spirit may be clothed, may have their validity accomplished, apart from that condensation which we call matter, apart therefore from the gravity or ponderosity which we regard as a characteristic of matter. There obviously exist conditions, whose tenuity, if we may so express it, contrast strongly with the consistence of matter, conditions whose etherialness and rarefaction are imperceptible to the material organs of sense; and such conditions must needs display themselves in the sphere adapted for them. But, over and above these, which, though usually termed spirit in respect of their antithesis to matter, are yet to be regarded as fundamentally unconscious substance, essence, pith, that of which existence, or reality as such, is constituted, there is a totally distinct quality to which the term *subjective* is appropriately given, as being the seat of thought, in that said latter quality is not only receptive of the impressions, or (shall we say ?) the aspects of

the being as such, with which it is conjoined, and which, therefore, manifests these in conscious or intelligential mood, as the natural inheritance of its conjunction with creaturely life. Both characters of quality we feel bound to regard as fundamentally developments of pure spirit, according to their separate and respective positive foundations as qualitative entities.

What then about the proof of God, as a "datum of Intellect?" We hold that we have no datum of Intellect *per se*. We hold, with Mr. Locke, that Intellect is primarily a *tabula raza*,—a clean sheet or leaf that is simply prepared to be written upon, *i.e.*, adapted to receive, and to be lighted up with, the information communicated to it, but which inherently, and of itself, has and holds no writing and no impress of its own. The proof of God comes as a necessary and natural induction to Intellect, from an observation of the works of man. It is simply a direct analogy, that if we have experience of certain works having a human author, that we should ascribe to corresponding works, higher than those of man, a supernatural author. Hence, and hence only, have we the idea of God. Our author properly says, that "intelligence must hold the same relative supremacy in the universe which it holds in us," or in regard to our works; but does it follow, therefore, that the datum of God is an *inherent* ingredient of our intelligence?

Mr. Mansel proceeds: "Let us suppose the result of our study of man to be, that intelligence is only a product of matter, only a reflex of organization, such a doctrine would not only not afford a basis on which to rest any argument for a God, but, on the contrary, would positively warrant the atheist in denying his existence." The language here is strong, and the conclusion extreme; but let it be duly weighed. "Intelligence a product of matter!" The difficulty in supposing such a thing is about as great as any which is here presented. We have experience of matter in all its possible phases, and in its ever-changing phenomena, but we thoroughly agree with Hamilton and his faithful adherent, that this is not one of them, nor anything approaching to it. We have the mouth secreting saliva, and the stomach secreting gastric juice; we have the liver secreting bile, and the kidneys secreting urine; but what are all these properties so secreted? What, but unconscious matter like the parents which gave them birth. If it be a law in all our experience,

that the child cannot transcend the parent in respect of the factual properties of that nature of which it is possessed; and if the law of the individual constitution is of necessity rigidly adhered to in all the details of material physiology,—then it would be utterly contrary to all our experience, and to all which constitutes reason, to suppose that the Brain, as secreting what pertains to it as such, should give out intelligence as the result of its mere cerebration. Is intelligence like bile or urine—something that can be seen or handled? Has it any of the characteristics of which matter is the genitor? Is it anything properly in common with the parentage which is thus ascribed to it? Who will say this? If Brain be the progenitor of consciousness, then we have a sample of law, which is utterly out of the field of all experience; and not only this, but we thus have a law contrary to all law, and which it defies the power of intelligence to comprehend. For we can readily understand how like should give rise to like, how that which is, should be able under certain contingencies to reproduce itself, or to produce that which naturally and necessarily arises out of a combination of elements in causal relationship with itself; but how aught should be produced manifesting properties, the germ of which is not to be traced to any one of the ingredients out of which the phenomenon comes, is what we cannot conceive. In short, if Brain gives out Intelligence from itself, it comes to this, that mere natural law will be found not only able to produce and reproduce its own, but also to *create*, to *originate* new departments of being, of which no trace is to be found in the congeners! We cannot therefore imagine, as possible or conceivable, the production of Intelligence, as a secretion of Brain, any more than we can imagine plants a secretion of the soil, or music in the piano a secretion of the fingers. Hence, no doubt, Hamilton's conclusion is a sound one, that, under such a supposition, all our ideas of law would thereby be so perplexed, and so confounded, that it must be impossible for us, in such circumstances, to draw the conclusion of God as a planning and purposing Agent, adapting means to ends. How could we, if we lay down premises, which would make the mere material of the earth to perform the work of God, to perform the devices which we experience to be in a high reasoning Intelligence only?

But the aspect of the question becomes totally changed, when

we lay at the foundation that peculiar qualitative essence, out of which comes forth, when in the recipience of ideas, its own peculiar characteristics of cognition and consciousness. There is a vast amount of misconception on this subject: philosophers leap from the side of what is properly and emphatically termed materialism, to the other extreme known as idealism: they leap from the gross corruption of matter being the procreator of what does not belong to it, viz., intelligence, to the peculiarly refined, and, as we hold, unfounded notion of Intellect being its own native, innate, insulated intelligencer, apart from matter, *i.e.*, apart from the object cognized. It is equally contrary then to all our experience to separate Intellect from the objects of its cognition, and, therefore, from the influences of matter, as it is to ascribe to matter the prerogatives of Intellect. We know and feel, as the simple and unassailable facts of experience, that our intellects are affected by the state of our bodies, just as we know that our bodies are operated on through the agency of our intellects; and we cannot but hold it therefore as a dogma of pure gratuitous invention, to set forth Intellect as operating *per se*, utterly and entirely apart from all incitement from the impressions of the material world, and, therefore, as being false in its foundations, as proclaiming a material world, if this does not exist! This latter arrogates two things we cannot admit, 1st. a state of law of which we have no example in the universe, viz., of operation being effected without the establishment of any causality, out of which the operation might arise; and 2nd. a foundation for Psychology, which throws the whole science of mind into confusion and falsehood; while it also stands in the way of that due and harmonious interpretation of Theology, of which the world and the church are in earnest and crying want.

But while Professor Mansel, as quoting Hamilton thus for the support of his views, touches a true enough key-note, when it is asserted that the ascription of intelligence to mere material necessity takes God out of the Universe, in that it takes away all that pertains to the purposings and plannings which we properly ascribe to Rational Intelligence exclusively; yet this will never satisfy for that view of the Unconditioned which, as a follower of Sir William Hamilton, he contends for,—a view which, as being out of all time, destroys, we maintain, all sense of eternity. His theory of the Unconditioned, as being one

with that of Hamilton, as effectually takes God out of the world as the Atheism of a pure materialism, and for the very simple and obvious reason, that a God without conditions can be to us no God at all. A God without conditions is, of necessity, without form and void,—a God without personality and without thought, reminding of the couplet, which says—

> "Fixed the doom of all remains,
> And everlasting silence reigns."

Mansel says, "to attain a philosophy of the Unconditioned, we must rise to the conception of existence out of time." Yes! and in destroying time you of necessity destroy God!! We can well understand the destroying of any created and special categories of time, such as that pertaining to our world, such categories as arise with the creation of the sun and the planets encircling it; and we can, moreover, well understand the destroying of the peculiar characteristics of time belonging to our mode of thinking, but we cannot understand the destroying of time absolutely, without the utter and absolute destruction of thought. We can, therefore, destroy time as applicable to Deity, only by destroying thought as applicable to Deity; and, if we destroy thought in God, what do we accomplish thereby but practically take God out of the world!

The author endeavours to get rid of such awkward conclusions, by introducing a distinction betwixt Faith and Reason. He says, "we must *believe* as actual, much that we are unable to *conceive* as possible." Of what nature is this distinction? When we cannot conceive a thing as possible there is a collision of reason with reason: that is, reason concludes for the *thing*, and reason avows the *impossibility* of the thing. What then? Why, reason comes farther in here, and says, that at least, in the one case or in the other, the grounds on which reason concludes must be mistaken, and we are properly referred to a rectification of the premises in the one case or in the other; for reason as grounded in truth, cannot possibly be contrary to itself. If our inability to conceive a thing therefore, is fairly and fully established, faith in such a case, cannot come in and make that possible, which has been clearly demonstrated as impossible. Faith is the reception of something by *collateral* proofs: the judgment of impossibility again, constitutes the inconsistency of something with itself. Hence, belief cannot

overcome such a conclusion: belief cannot make a thing to be what you have already concluded as an impossibility to be. We admit, indeed, that there is much that we must *believe* as actual (when the revelation of it comes to us accompanied with satisfactory proofs of its existence), which we are not able to grasp, to fathom, to analyze, or to explain, as something whose conditions and bearings have not been made cognisant to our understandings; but it would require a peculiar kind of evidence, which should be able to secure our assent by *collateral* proofs, to a dogma which cannot obtain our assent by *direct* proofs, because of incongruity. If the dogma in either case be the same, then the question merges into this dilemma, that, for some weaker reason, we *believe* a thing to be, which, for some stronger reason, we cannot *conceive* to be; and it comes to this, that, by faith, we receive that as *possible* which our understanding declares to be impossible. If, however, the object of our faith be something different from the object of our reason, the controversy is gone: there is no contrariety. But this would remove the ground on which our author takes his stand. His faith and reason must apply to the self-same object, or he is beating the air. What then? I am unable to conceive that black can be other than what it is, or that white can be other than what it is; faith can't alter the fact, if in my mind they stand in opposite and contradictory categories. I am unable to confound them, as either indifferent or reconcilable, *i.e.*, I am unable, either by faith or reason, to allow that a thing is not what it is, or that it can be otherwise than what it is. Here, then, I hold that faith must be staggered as well as conception. The difference betwixt faith and understanding is simply this, that, in regard to the former, we receive on authority which we regard as competent, an affirmation which we have not due means of ascertaining by our reason, *i.e.*, of ascertaining as a direct subject of rational apprehension. But if the assertion runs counter to what I know and feel, as a fact of the understanding, then we are compelled to set at nought that authority, and to distrust the assertion. Nor can this principle be regarded as allied to rationalism, properly so called. Rationalism subordinates faith to the grounds of experience, whereas faith, properly so regarded, yields itself to dogmas which lie beyond the range of experience, provided the dogmas are attested on

sufficient authority, or which is the same thing, are accompanied with sufficient evidence of their truth.

Mr. Mansel goes on to mark the distinctions betwixt the philosophy of Hamilton and that of Mill; and he complains that the latter, in his critique on the former, has missed the meaning of the theories he is attempting to assail, at least in respect of the relativity of knowledge, the incognisability of the Absolute and Infinite, and the distinction between Reason and Faith. It is not our province to enter into the arena between these, either to defend or to accuse. What we have to deal with is the views of Mr. Mansel, as expounding and upholding the dogmas of Hamilton. He enters upon a detail of Hamilton's views, as to the laws of our cognitive faculties, contrasting them with those of Kant, and Schelling, and Hegel; and intimating that "Hamilton, like Kant, maintained that all our cognitions are compounded of two elements, one contributed by the object known, and the other by the mind knowing. But the very conception of a relation (he goes on) implies the existence of things to be related; and the knowledge of an object, as in relation to our mind, necessarily implies its existence out of that relation. But, as so existing, it is unknown. We believe *that* it is: we know not *what* it is. How far it resembles, or how far it does not resemble, the object apprehended by us, we cannot say; for we have no means of comparing the two together." The first statement here made must be regarded as sound, viz., that all our "cognitions are compounded of two elements, one contributed by the object known, and the other by the mind knowing;" but what follows from such an admission? Why, of course this, that any one of these *per se* cannot accomplish the result of cognition. The Intellect can have no cognition without an object, for the object is the thing cognised; nor can the object of course exhibit the property of cognition, without a subject as the power whereby the cognition is exercised. And if this be the recognised law of cognition in one case, why not in all? Why disturb the uniformity of this law? Why appoint one law for the cognitions of the understanding, and another law for the cognitions of the reason, as if the cognitions of Intellect in either case were conducted on two totally distinct and different principles, one as here announced, according to a law that can be apprehended and appreciated, and the other

according to principles for which no reason can be assigned, and of which no account whatever can be given, and which are neither more nor less than begging for the introduction of a mystery which is wholly unnecessary? What says our author? He rightly enough contends that "the very conception (apprehension?) of a relation implies the existence of things to be related," and, farther, that "the knowledge of an object, as in relation to our mind, necessarily implies its existence out of that relation:" then he adds, very erroneously as we think, "and as to existing, it is unknown: we believe *that* it is: we know not *what* it is." We admit at once of course, that the object *per se*, *i.e.*, the object as lodged in external existence, the object in its own essential qualities, as a material object, is as such, out of the relation as to our minds; for the two are incompatible: what then? We answer, the object is nevertheless there by *representation*, *i.e.*, in the only way in which it can be there as consistent with the character of our minds. Consequently, we not only know *that* the object is, and this not inferentially, as here declared, but directly, as the first and most fundamental of our cognitions; but we do also know *what* the object is, in as far as we are bound to believe that the representation which we receive as our only means of information in regard to the object, is, when we have duly employed the means of correct cognition, a true and exact *expression* carried to our mind of the qualities cognised. The author, therefore, in saying that we cannot tell how far the cognition does or does not resemble the object apprehended (perceived?) by us, in that we have no means of comparing the two, utters a flagrant paralogism. For first, we may not affirm (we have no ground to affirm) that nature is false in her representations; but, on the contrary, friend and foe alike are obliged to consent, even in matters which would be disputed, if it were possible to dispute, that the utterances of nature in this respect are unquestionably valid. Second, we should like to ask, what means could by possibility be imagined or devised, to institute such a comparison as he speaks of, on his own terms? Before he can speak of comparing two things together, it behoved him to shew in what possible way the comparison might be made. *We* can fairly enough speak of the comparison, in that we can speak of the representation as the image of the original, transferred to Intellect from

the original; and the medium therefore of bringing the knowledge of the original to the mind; and while this is to us a perfectly satisfactory process of cognition, there has been no other process of which any natural or satisfactory account can be given. Mansel allows that the Hamiltonian "theory does not in itself contain any statement of the mode in which we perceive the material world."

Hence he thinks the theory "might, without any great violence, be adapted to more than one of the current hypotheses on this point. But that to which it most easily adjusts itself is that maintained by Hamilton himself under the name of *Natural Realism*." This Hamilton defines as "the intuitive knowledge of mind and matter, and the consequent reality of their antithesis." It indicates an acknowledgment of mind and an acknowledgment of matter: it indicates also a relation betwixt mind and matter; nay, to use the words of Professor Mansel, it "naturally implies the presence of both correlatives, though each (he says) may be modified by its contact with the other." How does he explain this strange relativity without reference to the theory of representation? Mr. Mill thinks that "wholly relative" must mean "wholly mental." Mr. Mansel maintains that "the object of perception, though composed of elements partly material and partly mental, yet exhibits both alike in a form modified by their relation to each other. The composition is not a mere mechanical juxtaposition, in which each part, though acting on the other, retains its own characteristics unchanged. It may be rather likened to a chemical fusion, in which both elements are present, but each of them is affected by the composition." Does not this admitted presence and influence, &c., of the material on the mental, though in this case an admission inferring extravagant mystery, imply of necessity the theory of representation? Philosophers may call it "Intuition;" but out of Mr. Mansel's own lips we can see no possible explanation of his language, but by some sort of contact of the object with the Intellect. He allows the fact of the presence somehow of Intellect and matter, in the act of Perception: we ask for nothing more. Can he soberly mean, however, when a man looks upon, or touches a stone, that the hard cold stone comes into actual contact with Intellect? Is not such a view contrary to the characteristics of the perception

which puts the stone outside of Intellect? What alternative have we, therefore, but that the representation of it merely, as gathered through the senses of sight and touch, comes in contact with Intellect, and so constitutes mind? What then? Why, Mr. Mansel takes up the notion of a chemical fusion, and he thinks it follows that the perception is neither mind in itself, nor matter in itself, but a new compound! How much more natural would it be, to regard Intellect like the photographic plate, receptive of the images thrown upon it, and to have, as its distinguishing feature, the attribute of consciousness brought into play under this reception? Hence, we should not merely get rid of that false dogma which Hamilton, from Kant, has upheld, that we can never know "things in themselves;" but we should get clear of a host of incongruities which necessarily meet us at every point, and to avoid which, so many make-shifts have to be unworthily devised. Of these incongruities, we need instance none more glaring than the dogma that what are called the secondary qualities of bodies "are mere affections of consciousness, which cannot be conceived as existing, except in a conscious subject," while the primary qualities are regarded as "qualities of body, of the phenomenal body perceived as in space." No wonder, under such a hypothesis, that it should be affirmed that "matter, as a subject or substratum of attributes, is unknown and unknowable!"

This view of Perception necessarily formed the foundation of Hamilton's dogma of the incognisability of the Absolute and Infinite, which, by the way, are contradictory of each other, under the Hamiltonian reasoning, and, therefore, giving room for the conclusion that on one side or on the other (it *may be* on both), the reasoning, or the grounds of it, must be at fault. The Unconditioned is that which is regarded as applicable to either. This term, says Mr. Mansel, admits of various applications: "it may be unconditioned as regards some special relation, or be unconditioned as regards all relations whatever. Thus, there may be the unconditioned in Psychology—the human soul considered as a substance: the unconditioned in Cosmology—the world considered as a single whole [unformed substance?]; the unconditioned in Theology—God in his own nature as distinguished from his manifestations to us; or finally, the unconditioned *par excellence*—the unconditioned in Ontology—the

being on which all other being depends." It must be obvious enough, that the Unconditioned in Psychology, and the Unconditioned in Cosmology, as in either case pointing to the foundations of mental and of material states (shall we say of mental and of material substance?), are after all but the relatively unconditioned, and not the absolutely unconditioned, in as far as, by their very terms, the one stands conditioned as the foundation of mind, and the other conditioned as the foundation of matter. We think it must be farther obvious that "the unconditioned in Theology," here represented as "*God in his own nature*, as distinguished from his manifestations to us," is no unconditioned at all. We might ask how we can reach God in his own nature, otherwise than through his manifestations? God must be conditioned or unconditioned. If the latter, then he is a mere impersonality: if the former, then he must be regarded as essentially and emphatically the All-Conditioned, in as far as he is the root and spring of all the conditions in being. "The unconditioned in Ontology, as well as the all-conditioned in Theology" (for there is no "unconditioned in Theology)," must be regarded as the express and proper pursuit of the philosopher; because it contains, at least in its field of inquiry, all that pertains to the attributes of substance; while, in our inquiry in the field of the latter, we arrive at those essentials of personal being, from which everything emanates, and through which everything is upheld. Mr. Mansel admits that "all the cases must finally culminate in the last,—the Unconditioned *par excellence*."

The desideratum is how to reach this unconditioned. "The general notion (says our author) is that of the one as distinguished from the many, the substance from its accidents, the permanent reality from its variable modifications. Thought, will, sensation, are modes of my existence. What is the I, that is one and the same, in all? Extension, figure, resistance, are attributes of matter: what is the one substance to which these attributes belong? But the generalization cannot stop here. If matter differs from mind, the *non-ego* from the *ego*, as one thing from another, there must be some special point of difference, which is the condition of the existence of each, in this or that particular manner. Unconditioned existence, therefore, in the highest sense of the term, cannot be the existence of *this* as

distinguished from *that*, it must be existence *per se*, the ground or the principle of all conditioned or special existence. This is the Unconditioned properly so called; the Unconditioned in Schelling's sense, as the indifference of subject and object; and it is against this that Hamilton's arguments are directed." Let us add, this is the unconditioned that is logically reached by the demolition of diversity for the sake of unity, of the many for the sake of the one, of the accidents for the sake of the substance, of the contingent for the sake of the necessary, of the variable for the sake of the constant or permanent. And farther, this is the Unconditioned in regard to which Schelling had so far got hold of a shrewd idea, when he proclaimed that there was no distinction betwixt the subject and the object: he should have said, that in the Unconditioned there was neither subject nor object, being pure spirit, in utter emptiness. Hamilton admits that the Unconditioned thus reached is "nothing." "When we attempt to conceive it as a reality we hypostatize the zero." There he is right: we cannot personify the *nihil;* and yet this Unconditioned, as a negative, is admittedly one of the strongest conclusions of reason.

What, then, is proposed with respect to the Unconditioned? Mansel, as representing the Hamiltonian view, says: "We must conceive it as existing as a *thing;* and we must conceive it as existing *out of relation* to everything else." Again: "It must be conceivable as the sole existence, having no plurality beyond itself; and as simple, having no plurality within itself. For if we cannot conceive it as existing apart from other things, we cannot conceive it as existing independent of them; and, if we conceive it as a compound of parts, we have further to ask, as before, what is the principle of unity which binds these parts into one whole? If there is such a principle, this is the true Unconditioned: if there is no such principle, there is no Unconditioned; for that which cannot exist, except as a compound, is dependent for its existence on that of the several constituents. The Unconditioned, therefore, must be conceived as one, as simple, and as universal." We have been at pains to extract the view of the Unconditioned as expounded by Mansel; and we feel bound to repeat, as we have often expressed it, that, according to the representation given, it is no unconditioned at all. In the first place, we hold that our author in starting sets

out upon the most hopeless errand; for it is nothing less than to find that a *thing* can be, which, on the one hand by the very terms, is no-*thing*; and, on the other hand, that a thing can be *that* which it is not. If legitimately we find the Unconditioned, in its absoluteness, to terminate in zero, how can we find the Unconditioned, in that which is the opposite of zero, in that which is the All-Conditioned? Let us attend to our author's statements: "We must conceive it (he says) as existing *out of* relation to everything else." Within the purely unconditioned there is no plurality, and therefore there is no relationship, because it is all negation; and if this be all absolute existence, then there can be no plurality, and therefore no relation outside, or rather apart therefrom: all being nihilism. But all is not nihilism; and there must of necessity be a Positive at the foundation. Then this negative essence must stand in direct relation to a primordial positive, as the Fountain of all that is positive in being. It is obvious that the author, as following his leader, betakes himself from the category of the negative, which the very term unconditioned implies, and which the very process of reaching the unconditioned prescribes, and in spite of this conclusion, illogically (shall we say irrationally?) leaps into the positive, yet still proclaiming "the unconditioned." Let us attend to this positive, this pseudo-named "unconditioned." "We must conceive it (he says) as existing out of *relation* to everything else." We admit that we must conceive it as existing independent of everything else, because we must conceive it as radically existing before everything else; but if everything else must be regarded as emanating therefrom, even as the stream from the fountain, it is impossible to conceive it as existing apart from the existing relationships which proceed from it. Take away existing things, and then we are obliged to conceive it as existing *per se*. But is its pure existence, as the sole existence of beinghood, to be regarded as the Unconditioned? Does the fact that there is no plurality beyond itself, in the great category of being, denote that it is itself exempt from conditions? How can we draw any such conclusions? Again, our author says, "it must have no plurality *within* itself." Here is the clencher! Very well: What follows? If it has no plurality within itself, then it cannot have mind; for what is mind? It is made up of thoughts: not of one thought; for in

that case mind would be static, without motion, without operation: in fact it would be mindlessness. Again, if it has no plurality within itself, it cannot have the objects of mind; for while our author admits that mind is made up of the subject thinking, and the object thought of, he admits also that the objects of mind are essentially out of Intellect *per se*. If then the great object of mind in the Absolute be existence as pertaining to the Absolute itself, see what follows? Why, by abrogating all plurality, fundamentally we thereby extinguish the Absolute! He admits, on the one hand, that thought and will are modes of the thinking subject, and, on the other hand, that the objects of thought and will are diverse: does it not follow that the conditions on which thought and will depend must be diverse too, and hence that there must be a diversity in that unity wherein thought and will are found?* Moreover, if the Absolute has "no plurality within itself," there can be no

*Are we to be told that we are carrying the principles of Anthropology into the consideration of the Absolute, and that we are depicting the Absolute, by the application of principles taken from those on which we regard *man* as built up? We ask, what other principles have we to apply? What other principles are in our possession, as the principles within our reach, and therefore given to us? Hence, what other mode have we of reaching the Absolute, and of forming a judgment respecting the Absolute? If we throw aside these, we spurn the only ladder whereby we can climb to the Absolute: if we reject these, we break down the only bridge which, as a *terra firma*, can conduct us to the Absolute. If we despise an induction of principles, gathered from "the things which are made," then it is demonstrably certain that God can never be known from his works; for it is demonstrably certain, that in such case we are left to the devices and inventions of our own imagination, and we have no help but to plant such a Deity as our *fancied* intuition shall proclaim.

It may further be objected, that as, under the leadings of philosophy, we can come but to one Absolute as positive, so if we do not run counter to the teaching of the New Testament, which speaks of "the Word" as being God, and with God, and as He by whom all things were directly made, we fail at all events in reaching to any such dogma about Godhead as is therein stated. We briefly reply, that what is in the New Testament referred to as "the Word," or Expression of God, is, in human probability, all that philosophy can possibly reach, as being *nearest* to humanity, and to creation. The Scriptures most undoubtedly might be expected in its teaching to reveal what philosophy is utterly incompetent to discover, as being without data, to travel beyond the *immediate* source and spring of Creation. Hence, there may be a depth of meaning beyond what we may at first suppose, in the words "No man hath seen God [the

power of generating plurality which resolves itself into no power of operation: there can be no object out of which plurality can emanate,—nothing out of which creation can flow—nothing out of which unconscious existence can spring, as distinguished from conscious existence. See to what our author reduces this conditioned Unconditioned. To "simplicity having no plurality!" *i.e.*, to one unvaried whole, without parts, and without therefore any relationship of parts. We hold that this is hardly a stage better than the pure unconditioned: it is almost a simple negation. Why, in the whole arena of being, where do we find operation without plurality, *i.e.*, without relation? We find it no where: no where have we the manifestation of law, but there also there is present the relations of plurality, for the regulation of that law. If operation has, by certain philosophers, been here and there posited as in some *simple* essence (as, for example, has been erroneously done in accounting for the exercise of will), it has always been so, as purely begging the question of self-movement in such circumstances, and as gratuitously assuming what has never been proved, nor even probable, from any sufficient data. If then we find no where in the whole economy of the world, whether of mind or of matter, the fact of action or of operation of any sort without plurality, why should we strive, in reaching the *primum mobile* of all being, to posit the same as "simple, having no plurality within itself?"

But let us look at the grounds set forth for the view now arrogated of the Unconditioned. "If we cannot conceive it as

Father] at *any time:* the only begotten Son which is in the bosom of the Father, HE hath declared him" (John i. 18). It would seem from this, that Deity, as seen or grasped by philosophers, as well as by patriarchs and prophets, was that in principle, which Scripture terms "the Son:" the Deity envisaged by Hindoos, as that into which they believe they shall ultimately be re-absorbed, could only be he whose "light was the life of men." While therefore natural religion, in its investigations, can possibly carry us no farther than the immediate fountain of life to the world, it may nevertheless be perfectly true, as revealed, that there is a spirit or essence deeper still than any of which we can by possibility have cognisance, through the field of created things, as made known to us. This is a point which may be readily *believed*, when we have the assurance of it in the Scriptures, because it is not such a question as that proposed by Mr. Mansel, viz., as something "that we may *believe*, but which we cannot *conceive* as possible." On the contrary, it is in perfect analogy with all that we are taught of one medium being embosomed in another.

existing apart from other things, we cannot conceive it as independent of them; and, if we conceive it as a compound of parts, we have to ask, what is the principle of unity which binds these parts into one whole?" What do we reply to this? Is there not many a whole of whose parts we can properly speak, while yet the parts are inseparable from one another, unless by destroying the living integrity of the whole, and are dependent on one another, in the constitution of that independent whole? "The coat was woven without seam, woven from the top throughout." The seed is a whole. To such a whole, we trace the facts of existence, as we now find them; and we denominate that whole the All-conditioned. What precisely are the parts, and by what principle of unity they are bound into one absolute whole, we are not called to explain; though we cannot be wrong in asserting that, if there be a qualitative foundation primordially, out of which all the conditions of present *unconscious* existence have their emanation, and if there be a qualitative foundation primordially, out of which all *conscious* existence has it rise, both must, of necessity, have their foundation and their function in the same. Nor can we conceive any greater independence than such a Whole, thus unified by the inherent or essential affinities of his being, as holding the subjective and objective in himself; and thus holding absolute and independent sway in the Unconditioned properly so called, which, as being neither subjective nor objective, is yet essential, as infinity for the manifestation of his power and his principles, as displaying a world of natural law without limitation.

Our author asks, "What is the principle of unity, which binds these parts into one whole? If there is such a principle (he adds) this is the true unconditioned: if there is no such principle, there is no unconditioned; for that which cannot exist, except as a compound, is dependent for its existence on that of its several constituents. The unconditioned, therefore, must be conceived as one, as simple, and as universal." Of course it must, otherwise it belies the name; but the unconditioned is a negation, and our author speaks of a positive reality! He speaks indeed of "a binding principle," which connects parts into one whole, and says, that said principle must be the unconditioned: but we ask, is there any need for devising any separate entity for this end? Is union effected, so to speak, by some special

cement, separate from the respective parts? Is not union the self-connexion of the parts themselves, by their own internal and native adherence? And while we are not in circumstances to speak in detail about the parts, or what it is that constitutes the parts, or the precise relationship of the parts, it is enough for us to know that there is an ultimate unity, in whose bosom there is that diversity and complexity, out of which emanate the diversity and complexity of the world.

Having found his unconditioned, what does our author make of it? Like Hamilton, before him, he finds it "incognisable and inconceivable." How could it, in the circumstances, be otherwise? A contradiction in terms must needs be so. Here also he says: "consciousness is subject to the law of time. If I could reach in thought a beginning of time, and discover some first fact with nothing preceding it, I should conceive time as absolute, as completed, and the unconditioned as the first thing in time, and therefore, as completed also, for it may be considered by itself, apart from what depends upon it. Or if time be considered as having no beginning, thought would still be able to represent to itself that infinity, could it follow out the series of antecedents for ever. But is either of these alternatives possible to thought?" If we could reach a first fact, with nothing preceding it, then all preceding that fact would be timelessness, because it would be blank; but how out of blank could a first fact begin to be? Our author, like his leader, mistakes the category of time, and wherein it lies. It is incorrect to say that "Consciousness is subject to the law of time;" for time itself is developed by the very operation of consciousness. Time is a phenomenon of consciousness. What is time? It marks transition from one thought to another, and *time is the interval*, indicated by said transition. "To think, is thereby to constitute time." A Deity therefore out of time would be no Deity at all, because it would be a Deity without thought, a Deity, as Schelling says, with consciousness annihilated.

The Absolute and Infinite, then, as peculiarly developed by Mansel, in subordination to Hamilton, were to these philosophers "both inconceivable." What then? Did they reject their views of the unconditioned as representing the Absolute and Infinite? Not so. "We may believe (says Mr. Mansel) *that* a thing is without being, able to conceive *how* it is. I believe

that God is a person, and also *that* he is infinite: though I cannot conceive how the attributes of personality and infinity exist together. All my knowledge of personality is derived from my consciousness of my own finite personality. I therefore believe in the co-existence of attributes in God, in some manner, different from that in which they co-exist in me, as limiting each other, and thus, I believe in the fact, though I am unable to conceive the manner of it." Mr. Mansel proceeds to say that though reason should conclude for two opposite courses of thought, this is no good ground why he should not yet exercise faith on the one side or the other. "Kant (he goes on) brings certain counter arguments to prove on the one side, that the world has a beginning in time, and on the other side, that it has no beginning. Now, suppose I am unable to refute either of these courses of argument, am I therefore compelled to have no belief at all? May I not say, I believe, in spite of Kant, *that* the world has a beginning in time, though I am unable to conceive *how* it can have so begun? What is this again, but a belief in any absolute reality, beyond the sphere of my relative knowledge?"

These remarks demand a close examination. "We may believe *that* a thing is (says our author), without being able to conceive *how* it is." What is meant, or intended by the *how* in this sentence? Does it signify *in what manner*? Is it made a question of *forthsetting*? Does it refer to the creation of the thing, to the *introduction* of the thing? Of course, nobody will dispute the possibility of such a proposition. There are a thousand things I may see and know as facts, while I cannot explain *how* they came to pass, or in what way they came into existence. But a question of the Absolute cannot have reference to the *mode* of the fact: besides, if this were our author's meaning, what need was there to lead away the thought into a channel of contemplation which happens to be out of all connexion with the precise current of thought which forms the subject of investigation? Again: does the *how* refer to the *reason* or *purpose* of the thing? Of course, it will at once be conceded that we may believe in the existence of an object, without our being able to conceive the reason or precise end of its existence, but this, in a question of this sort, cannot be the meaning of our author. Once more: Does the *how* mean

to *what extent*? Here also we may allow that a thing is, without our being able to conceive *how* it is, or how far it is, or with what intensity it is. There may be a poisonous infection in the atmosphere, and we may be unable to say how far it is so. But s this the *how* of our author? Not so, for the Absolute and the Infinite do not admit of limits as such, and therefore the *how* is not a question of degree. What then? Does the *how* signify *in what state*? We apprehend this alone can be the meaning of this little word in the sentence referred to. We can conceive of no other sense as at all applicable. Let us attend then to the whole expression: it would stand thus. "We may believe *that* a thing is without being able to conceive *in what state* it is." Is this a possible proposition? If we believe that a *thing* is, we must have some idea of the thing: we must be able to say something about it as a thing, otherwise we believe in something, and we know not what we believe in! If we believe in a thing, we receive into our minds the representation of the object, upon certain intermediate evidence on which we are contented to rest, as sufficient with respect to its existence. The question is, what do we we in the circumstances receive? Is it a name only? A name only, without a description of the object of which it is a name, would be an empty name, a name to which no real idea is attached? If, therefore, we believe in a *thing*, we must have an *idea* of that thing. What is the idea? It is capable of being described; for every idea has its peculiar characteristics. It may be clear or obscure: it may be well defined or defective in its details; but as an idea, the very fact of our possessing it of necessity implies that we are able to say what it is that we do possess. What then comes of our author's sentiment, which he thus confidently lays down that we may believe in a *fact* without our being able to conceive *in what state* the fact is? That we have hit upon the precise character of the *how*, comes out, we think, from the illustration he gives from Kant as to "the beginning in time," and the "non-beginning in time," of the world. He says he is unable to refute either of these conclusions: his reason is equally for the one and for the other: yet what does he say? I believe in spite of Kant, *i.e.*, in spite of his reason, that the world has a beginning in time. What is the plain English of all this? Why, surely, that he rejects one of the conclusions, and cleaves to the other! He

cannot hold both at one and the same time. He cannot believe that a thing *is* and also *is not* in the precisely same condition and circumstances. What then? Why, he simply (though he does not allow it) casts one of the conditions aside; and upheld by revelation, he receives the dogma that the world has a beginning in time,—that there was a "beginning" before the world began. And no sooner does our author thus cast off one of the conclusions referred to, and lay hold of the other, as the object of his faith, than he returns to the former; and inconsistently holding to it as intellectually true, he exclaims, I cannot conceive *how* that which I believe in, viz., the principle that the world had a beginning in time can co-exist with the principle that the world had no beginning in time. Truly he could not; and no man could; for no man can hold to a contradiction in terms. Yet he receives one of the terms of the antinomy as true! Surely then the law of identity demands that he should not any longer regard the opposite term as true; and if so, the law of truth in like manner involves the necessary conclusion, that an infringement of the laws of logic lies somewhere in the process by which said contrary conclusion was reached.

What is the value then of the maxim which we have taken the freedom to controvert? He says, "I believe that God is a person, and also that he is infinite, though I cannot conceive how the attributes of personality and infinity exist together." If we define *personality* to be that which has form and condition as the characteristic of said form, and therefore giving individuality to said form, as distinguishing it from all other individuality existing; and if we define *infinity* to be boundless expansion with unvarying sameness of consistency in endless continuance, assuredly the two run counter to one another, and cannot both be predicated at once and with regard to the same object. Before I can by possibility bring them into consistency, I must modify my definition on the one side or on the other; for the one contradicts what the other affirms. On the one hand the fact of form involves the fact of limitation: non-limitation and form cannot by any rational consistency exist together. The former takes away the latter, and the latter is inconsistent with the former. If then I hold to the former, I am thereby prevented from believing in the latter; for I cannot receive as true, that which I already receive as not true. What then? Why, I ask

myself whether there be not an Infinite which may well characterise the personal, while in perfect consistency with every argument from reason, I leave the infinite which can only accord with the impersonal to have its entire and absolute validity. And regarding the Absolute, as the primary condition of all that is positive as essential being, in his own inherent disposition, and symphony, and oneness as congenital totality, I am enabled to think and to speak of this personality as properly the Infinite, in that no bounds can be prescribed to his operations, no bounds to his creations, no bounds to his multitudinous devices, no bounds to his endless expansions, and orderly connexions of parts, no bounds to his absolute supremacy over all, no bounds to his indefinite extension over the universe. We have thus the Absolute and Infinite in the most positive and personal sense, while yet the absolute and infinite exist, in a negative sense, as the opposite pole of beinghood.

We may be permitted to say yet a little on the important question of Faith and Reason to which we are thus introduced. It seems to us to be a very simple one, and one which is capable of settlement upon clear and unmistakeable principles. They do, each of them, imply the fact of cognition, but indicate a difference in the mode and medium of cognition. We are thus able to distinguish generally betwixt a dogma of faith and a dogma of reason: to distinguish whether our principle lies in the mind as a matter of faith or a matter of reason; in short, to distinguish betwixt the ground-features of faith and of reason. There is no distinction betwixt them with respect to the material of thought. The conclusions of reason and the object of faith may point to the self-same thing: but here lies the difference. The conclusions of *reason* spring from those data, which we have the means of investigating by the use of our senses; and it is the exercise of *faith,* when the data lie beyond the reach of our senses, and we stand indebted for our information to the statements of another. We may be puzzled and perplexed by the diverse conclusions of Reason; and Faith then will be brought to our aid. In such a case as that now brought forward by our author from Kant, in which the conclusions of reason run counter to one another, all we have to say is, if the mind is absolutely uninformed in other respects,

for example, as having no express authority for the one conclusion more than for the other, and if the steps in coming to the one conclusion seem to be equally valid with those which led to the other, it would be impossible for the judgment to determine either way: it would be of necessity suspended, as the ass which happened to starve betwixt the two bundles of hay. But it is seldom that the mind can for any length of time be thus so nicely poised and adjusted; for among collateral elements, it will weigh the balance of probabilities, and, rightly or wrongly, it will cleave to that side where it so happens that the chief weight appears to lie. There will be (whether rightly or wrongly) elements which will arise on one side, of more apparent force; and elements again on the other side, which will fail to strike the mind with sufficient influence; and the balance will thus be broken. Hence, there will be a practical adhesion of the mind to one side, rather than to the other. Such adhesion, Mr. Mansel calls *belief*. We do not think he defines belief sufficiently, as shaded off from the conclusions of reason. Let us note that, *fundamentally*, belief is not itself an idea, but *a particular mode of receiving an idea;* and hence, only comes to be *the idea as thus received.* Nor is it the dry reception of an idea, as if it were an abstract sentiment; but it is the reception of the sentiment into intimate union with the *me*, as being in harmony with some truth or truths already recognized and received. Hence we hold that to be a matter worthy of credence which is consistent with recognized truth, as being the revelation of conditions which will cohere with other known conditions. Hence also, in order to faith, the mind must be in a state adapted for it. The thing offered for truth must be accompanied by two circumstantials—first, that it will join itself readily to the mind, as in a condition to receive it; and second, that it be accompanied with sufficient authority, as a source of truth. The condition of the mind receiving, and the circumstantials of the thing offered, must be such as to permit of the two coalescing; and where this is the case, the receiving is regarded as faith, and the thing received, as an object of faith. When there is no harmony, then the thing offered is, in point of fact, rejected. There may be the pretence of receiving; but where there is no coalescing, no real union of it with the soul, it exists in the mind as a mere loose object of

mental vision, a thing therefore having no practical influence on the economy of the *me*.

A word more as to the demarcation between belief and knowledge. We do not speak of *belief*, in respect to the trees we see, or the pen we hold in the hand, or in respect of the city we lately visited, or the people we saw therein. This is matter of *knowledge*, and is so far therefore beyond belief. What comes immediately through the outward senses, cannot, properly speaking, be regarded as matter of belief, but an object of knowledge. Hence, therefore, what coming through the medium of *outer* sense, is laid up in memory, and is brought back through the medium of *inner* sense, is an object of knowledge; but that which comes to us through the statement of another, and which is received, either because the testimony is considered good, or because the internal evidence carries liklihood to the mind, or because of both, is properly an object of *belief*.

Upon what ground then does Mr. Mansel hold that the Absolute and Infinite, in respect of which his reason primarily concludes for *impersonality*, ought yet to be believed in as *personality*? The truth is, that the doctrine of personality is as much a conclusion of the reason, as that of impersonality; and while he knows that the two cannot co-exist under the self-same category, and that yet he must receive the one or the other, he adheres to that side which is most in accordance with received dogma; but instead of thrusting each into its own peculiar category, as the positive and negative sides of eternal existence, he thrusts both into the background of mystery, without any necessity whatever. For how mystery can make that to be, which we recognize as not being, is beyond our comprehension. We can only regard this refuge in mystery as simply giving the question the go-by, so far as his own mind is concerned. It is utterly impossible for the mind to receive two incompatible things as each equally true; for it runs counter to the first, and the fundamental law of reason which says that a thing must be what it is, and cannot be what it is not. If we hold to the one, we must of necessity repudiate the other. No! says our author, I throw them both into the background of mystery, where operations and conditions *may* be at work of which we know nothing; and then I satisfy myself that either and both may be true, and I act accordingly. This background

of mystery is very convenient, for it will permit a man to believe anything and everything that his heart can desire; but we doubt much whether it really serves the ends of true faith. That we must believe much that we do not comprehend; and that we do, as a matter of fact, very properly so believe, in cases where the reason is helpless, in that it is without the requisite data to hinge conclusions upon it is understood when we have satisfactory evidence that the revelations, on which our faith rests, are made upon sufficient authority; but this is quite a different thing from believing in a dogma which is incompatible with our reason, which runs counter to our reason, which dislodges our reason. The only alternative, in such circumstances, is to search the grounds of our reason, on the one hand, and to examine the authority for our faith on the other, and to cleave to that which best abideth the trial. It may be that the affections will intervene, and so lead a man to infidelity; or it may be that he concludes from reason weakly or insufficiently exercised; or it may be that a man is not in circumstances to do much satisfactorily either way, and that he is helplessly led by trust in the authority of others. These are points of discussion that lie utterly out of our way here. What we have to do with are the operations of mind, and the decisions of the mind, when two contrary schemes of thought are set before it; and we hold that, strictly speaking, it is utterly impossible to receive them both; and on the same ground that we cannot serve two opposite masters. We may profess a sort of allegiance to them both no doubt, through that practical contradiction which not unfrequently is manifested betwixt the hand and the heart; but if we practically hold to the one, we do in effect set at nought the other. Hence, we say of Professor Mansel's speculative conclusions, about the unconditioned, and a personal God, that, from the fact that he practically adheres to the latter dogma, he does, in effect, throw the former aside; and his profession to clothe the former with the latter is not only an attempt to do that of which he can give no account, but to make that congruous which is incongruous!

We can scarcely permit ourselves to pass from this consideration without taking a further brief look at Mr. Mansel's mode of distinguishing between *why* and *how*. "We can give no reason (he says) *why* two straight lines cannot enclose a space; but we

can comprehend *how* they cannot. We have only (he adds) to form the corresponding image, to see the manner in which the two attributes co-exist in one object. But when I say that I believe in the existence of a spiritual being who sees without eyes, I cannot conceive the manner in which seeing co-exists with the absence of the bodily organ of sight. We believe that the true distinction betwixt knowledge and belief may ultimately be referred to the presence or absence of the corresponding intuition." Let us look at these remarks: "I can give no reason (he says) why two straight lines cannot enclose a space!" Surely we can all give the reason that we *see it as a fact.* What we see with our eyes stands as a primary dictum of thought. For the same reason we know that the line, which we call a circle, does enclose a space. What better reason can we give for this, or any similar assertion, than the valid one (best of any), that it is a communication of the outward sense. If it be a fact of perception that *one* straight line cannot enclose a space, it is equally a fact of perception that *two* straight lines, however joined, cannot enclose a space; for they leave an opening, shewing that space is not enclosed. So much for the *why.* Now, as to the *how;* this forms simply an exposition of the *why, i.e.,* of the percept—whether of the circle on the one hand, as enclosing space, or of the two straight lines on the other, as leaving an opening in space. The *how* resolves itself into a scanning of the thing perceived—into an examination as to what it is. The *why* and the *how,* therefore, correspondingly stand together in the same category. As to the former, all we can say is, that we perceive it to be a fact that two straight lines do not enclose a space, and if you ask *why?* We say a thing cannot be what it is not: as to the latter, all we can say is, that any conceivable concatenation of said lines cannot enclose a space. It is on the self-same grounds we conclude that two and two make four. We know what two is, viz., two ones; and we know what four is, viz., four ones; and we know, as a matter of mere perception, that four ones are reduceable to two twos: hence we see and say that two and two make four; and no ingenuity can make us think otherwise; it is a question primarily of perception. But it is not in all its bearings a question of perception, but a simple question of reason. So soon as we find that each unit in arithmetic corresponds, and is perfectly similar throughout, with

each unit, we know, as a fact, that every aggregate of units must bear a relation to every other aggregate of units, and we are thus speedily able to construct formulas of calculation which we know will bear the proof of their accuracy, when concrete elements are substituted as the units. The *why* and the *how* then resolve themselves into the *matter* of fact, and the *causality* of the fact. The former is founded in the first dictum of our consciousness, viz., perception: the latter is the proof by the actual constitution of the relationship of its elements; and the conclusions come to are the conclusions of the reason, conclusions so fixed, that nothing can dislodge them. It is a simple example of the necessary connexion betwixt cause and effect; and it cannot be said that faith or belief, properly so called, has in the circumstances any room for operation, because therein nothing is taken on trust. When we take a thing on *trust*, we do so, not on *the evidence of a personal examination by our senses*, but upon some *collateral evidence*, that the object is what it is represented to be: in this latter case lies the precise point where faith into operation.

Let us consider the second example of our author. He says: "I believe in the existence of a spiritual being who sees without eyes: I cannot conceive the manner in which seeing co-exists with the absence of the bodily organ of sight." And why this want of power so to conceive? Is it not to be found in the want of conception as to the object in whom you believe? You believe in a spiritual being; and when you are asked to describe that spiritual being, you are dumb. How then can you conceive that of which you have got no conception? How can you conceive its mode of *knowing*, when you have got no information as to its mode of *being*? If conception is made to hinge upon faith, the conception is of necessity graduated in its extent by the extent of the knowledge of the object believed in. It must be tolerably evident then, that "the true distinction between knowledge and belief" lies in the *sources* of communication from which the mind receives its information, and not in the communication itself. Does this mean what our author says, when he ascribes it to "the presence or absence of the corresponding intuition?" We have *knowledge* when we have the facts before us, as objects of sense, and we have knowledge also, in respect of the necessary conclusions we must form in regard to the

relationship of said facts. Again, we have *belief* when we receive the facts on collateral testimony; and of course it still continues belief in respect of the conclusions which we form from the data of faith, which latter conclusions, though resulting directly from reason, yet cannot transcend the facts themselves, as objects of faith. I may apply my reason to the interpretation of Scripture, yet the conclusions which I draw from such an exercise of my reason, are, notwithstanding, to be ranked in the category of *faith*, simply because the facts out of which the conclusions are drawn are themselves objects of faith.

APPENDIX II.

MILL ON CAUSALITY.

THE terms which we have employed in our exposition of Causality are so different from those which we find in ordinary use, that it will be needful to reconcile these with the language of our chief writers, whose utterances on this subject are mainly regarded. With them, we hear not of "potentiality;" nor of "potentiality as a *constant;*" nor of "condition as some particular expression of quality;" nor again, of condition as "the key whereby potentiality is unlocked, and reduced into force;" nor of "contiguity as regards an association of conditions in some particular relation;" nor again, of contiguity, as "introducing a direct relationship of the causal elements or factors," and as "the door through which the effect is manifested." Unless these are regarded and apprehended, all the progress we hope to make in examining into the philosophy of this great question will not be of considerable value. Unless we have some idea under what circumstances force arises, we must needs leave the question where Mr. Hume has left it to us—a deep unexplained mystery.

Suppose we were not able to arrive, by an inductive process, at the region wherein potentiality, or the capacity of power, is inherently and unalterably posited, and suppose we were not able to trace step by step the characteristics which belong to quality, and to condition (as some particular state of a quality), as the positive principle (or shall we say essence ?) which denotes the expression of power; yet when we affirm that we have got hold of such ideas, and when we lay hold of said ideas for the purposes of a deductive process, first of the unconditioned as the Absolute negatively, whose inalienable attribute is potentiality; and second, of conditions as states of Quality found to inhere therein, and constituting the factor or factors in virtue of which

the potentiality is brought out into positive expression, as force: when, by means of said ideas, we attempt to apply these data in all conceivable circumstances, we have a right to ask whether or not they go to explain phenomena; and if so, have we not a right to ask that, in that case, they be received? In all causality, we have said that there is an external and an internal relationship of combining elements, which must be present; and there can be no causation with one of these relationships only, not with the external alone, nor with the internal alone, but only with both as of necessity in combination. We have said that the internal relation consists in the kind of affinity which one quality bears to another, or more directly and properly which one condition bears to another; and that from the nature of this affinity, that is from the influence which the presence of one condition exercises on another, that is from the way in which conditions thus brought together materially affect each other, an operation is produced accordingly. We have said that *the external relation* consists in the contiguity, or the kind of conjunction, under which alone *the internal relation* has the means of being practically formed. It thus follows clearly, what it is that conjunction or contiguity really accomplishes. It creates no power: it brings no power into being, which did not preliminarily exist; but it brings two or more agents into a *connexion*, in virtue of which connexion or relation they affect one another, when otherwise this could not have been achieved. This constituted relation, therefore, of the elements as conditioned, we say, is the cause; for it is only out of this relation, and when the relation is established, that the operation productive of effect comes to pass.

Still farther: in Causality every operation has a particular *law* of its own. The law may be manifested as one of intensity, or as one of torpidity, as one of violence or of gentleness in its operation; and still farther as productive of certain special conditions only, and of certain forms and no other. It may be explosive as gunpowder, or slow and gradual as the development of the leaves in spring; and it can be productive of its own special conditions and forms only; for, in the circumstances, it must absolutely ignore aught that is not present in the combination. Thus the law which operates in Causality is literally endless in its modes of manifesting results. The law

is *generically* the same throughout, in as far as it is the self-same principle, manifesting some one or other of the multiform conditions in the factors, or the various modes of their order whereby operation is influenced, and consequently whereby phenomena are produced. Hence, as regards the *law* of Causation: it depends entirely on the character of the *conditions* which are brought into relationship, as well as into the character of the *relationship* whereby they are associated. Gunpowder will explode by the application of a lighted match; and if to the combination we introduce a gun, a ball, &c., and a target, and appoint to all these a due *relation*, we shall find that said relation will result in a hole through the target, or such other effect as the firing of the gun at the target must properly produce. I plant a seed in the ground, taken, we shall say, from the pod of a bean. In this case we have the combination of seed and soil, of sun and showers: the consequence is, that operation takes place which developes the rudiment of a root downward and of a stem upward; and in process, out of this again, a production of the seed itself under a definite or fixed rule of operation. And it can produce nothing but itself. And so with every other seed. How, in process of growth, the seed should produce the stem, the leaves, the blossom, the pods and the seed in the pods, can only be spoken of as the successive stages appointed to the creature's growth, and its determinate manifestations at each stage. There can be no doubt that the law of development belongs to the law of Causality, because every operation in nature belongs to the law of Causality; but then we are not sufficiently acquainted with what may be termed the embryotic equipments as to say under what circumstances successive developments must, as a necessity, be manifested.

Mr. Mill defines a cause to be "the sum total of the conditions positive taken together; the whole of the contingencies of every description, which being realized, the consequent invariably follows." In the first place this definition is too general to be of much value; while nothing whatever is said as to what in point of fact constitutes the cause, viz., the relationship in which the conditions stand to one another. How can the sum total of conditions *per se* produce an effect? It is but a blind statement of something without saying *how* that something is. In the

second place, if the nature of cause is spoken of through the effect, it is an unhappy term to speak of "contingencies;" for when cause is compared with its effect, there are and can be *no contingencies:* the effect stands with iron-necessity with respect to its cause, and the cause with the same iron-necessity with respect to its effect. Cause and effect are correlative sides of one and the same combination. Mr. Mill perhaps would deny this. He says, "there needs not be any invariable connexion between a cause and its effect." And this view he entertains because he makes cause to lie in what he calls "the sum of all the antecedents." "Thus, if a person eats of a particular dish, and dies in consequence; that is, would not have died if he had not eaten of it, people would be apt to say that eating of that dish was the cause of his death. There needs not, however, be any invariable connexion between eating of the dish and death; but there certainly is among the circumstances which took place, some combination or other, on which death is invariably consequent—as for instance the act of eating of the dish, combined with a particular bodily constitution, a particular state of present health, and perhaps even a certain state of the atmosphere; the whole of which circumstances perhaps, constituted, in this particular case, the *conditions* of the phenomenon, or, in other words, the set of antecedents which determined it, and but for which it would not have happened. The real cause is the whole of these antecedents; and we have, philosphically speaking, no right to give the name of cause to one of them, exclusively of the others." We have here once more to complain of the loose way in which Mr. Mill expresses himself. At one moment he writes as if he were to hit the mark; at the next moment he strikes wide of the mark. Assuredly, when he tells us that among the circumstances there is some *combination* or other on which death is invariably consequent, he goes towards the principle of causality; although, as we have said, mere combination *per se* does not constitute causality; that is, it does not indicate the essential principle of causality, for mere combination is but the constituting of the relation *externally.* In order to know what causality is we must have a notion of the relationship *internally* among the ingredients combined. And this leads us to say, and to say emphatically, that what he calls "the antecedents" or "the whole of the antecedents," that is the sum

of the ingredients, or causal elements, which go into the combination, do not constitute cause. If we look to "the antecedents *per se* we shall never find the cause, nor what have been mistakenly termed "the causes" of the phenomenon. Logic requires a deeper insight into its principles, and a closer attention to its conclusions. We repeat then, that it is not the ingredients ("the antecedents") which come together, which constitute cause, but the *relationship* in which these stand to one another in a combination: that is *the ingredients in a certain definite relationship*, which constitute cause. And this will the more clearly appear in that hundreds of instances might be produced in which the same "antecedents" come together without producing the same results; and why? because though the antecedents or ingredients are the same, the *relationship* in which they stand to one another is different. The same antecedents, or causal elements, may come together in the letters a, r, s, t, half a dozen of times; and in each case the result may be different. Why? because in each case the relation or connexion in which they stand to each other is different. In one case it is *arts*, in another it is *rats*, in another it is *star*, and a different meaning comes out accordingly. Granting that in the example given by Mr. Mill, as quoted above, "the antecedents" are correctly stated to be the particular food, the bodily constitution, and the present state of the bodily organs, and also some special condition of the atmosphere, it is perfectly possible to suppose a case in which all these are present, and yet the result of death might not take place. It is possible to suppose the condition of an enfeebled organ, differently affected by the atmosphere according as the food was taken before or after exposure to the atmosphere: it is possible to suppose the action of the food in question, operative as a poison or not, according to the affectibility of said organ; but what we maintain is, that it is not possible to suppose the *same conditions* of the separate ingredients to come together in the *self-same relationship*, without producing the *self-same result*. It is not the antecedents, nor the sum of the antecedents then, as such, which constitutes the cause; for, in that case, we must have in every example of Causality, not one cause, but many causes, which is utterly unphilosophical; but cause lies in the particular *relationship* of the causal elements, as particularly conditioned, to one another.

Let it be noted (it must be frequently repeated in order to be duly remembered), that though the relationship should continue the same, yet if the condition of any one of the ingredients be changed, the effect, as a matter of course, will be changed, because a change of condition in any one of the ingredients is tantamount to a change of the ingredient; and again, as we have said, if the conditions of the ingredients should continue the same, yet if the relation in which said ingredients stood to one another be changed, the effect will be changed too. In either of these circumstances the Causality is not the same; and if the Causality is not the same, the effect cannot be the same. The law of Causality could not be the absolutely unbending iron law of necessity which it is, if such were not the case. What must be always affirmed then is this—that *the same conditions of things, combined in the self-same relationship, will always produce the self-same result.* In other words, there is a connexion of absolute necessity betwixt the effect and its cause, and *vice versa.* The question, as we have seen elsewhere, is reducible to the law of "non-contradiction," that is a question in which we must assert a thing to be what it is.

As to the popular mode of stating cause,—for example, in the illustration given above, wherein it is said that a person dies in consequence of eating of a particular dish, it is to be noted that ordinarily there is no way of avoiding the ascription of the result to some particular ingredient; and why? The reason is obvious, if we would only take into consideration that a causality was pre-existing; and that in consequence, it is the introduction of a particular ingredient thereinto that has changed the feature of this causality as previously existing, and of course it is specially spoken of therefore, because it, and it alone, brings out a result different from the previous causality. If we remember that there has been a previously operating causality in all cases wherein cause is ascribed to any one particular element, the difficulty disappears. So soon then as a new ingredient is brought into the combination, the result is, of course, correspondingly affected thereby, and as a matter of course the effect is ascribed thereto. Nor is there after all so much that is really erroneous in the popular mode of stating the case; for unquestionably, if we take into account the fact of a previously subsisting causality, and now note that said causality has been thus

interfered with, by the introduction of a particular ingredient, the change that takes place, that is, the effect that is thus produced by the new condition therein planted, is properly enough ascribable to the new ingredient in question. In this view then "the eating of the dish" was the cause of death; or more strictly, we should say was the *occasion* of death; for an element thus introduced into the midst of a set of previously operating elements becomes the occasion of a change in the operative law of these: and whatever the change be, it is to the introduction of that element that the change is properly to be ascribed. This does not alter the fact, but goes to confirm it, that it is *relationship* in a combination of ingredients, which constitutes cause. The ingredients are the factors out of which operation flows, according to the attitude in which they stand to one another; and according to the condition of those factors so arranged, the law of operation must precisely follow.

Every example which Mr. Mill introduces only illustrates the same principle more fully. "A man takes mercury, goes out of "doors, and catches cold. We say, perhaps, that the cause of "his taking cold was exposure to the air. It is clear, however, "that his having taken mercury may have been a necessary "condition of his catching cold; and though it might consist "with usage to say that the cause of his attack was exposure "to the air, to be accurate, we ought to say, that the cause was "exposure to the air, while under the effects of mercury." What is all this but an assertion that the introduction of mercury as an ingredient in that causality which prevails to keep the living body in a normal state of health, affects the body; and again, the introduction of a cold atmosphere upon the body under this affection, produces the state termed a cold? And what is this but asserting that an addition to the elements, or a modification of the condition of the elements, or a changing in the relationship of the elements in combination produces a change in the result? And what does this come to but the confirmation of the dogma, that *a certain relationship of determinate elements* infers a certain definite result? Yet, as we have noted, such is the disposition of things that, looking to the fact of a previously existing causality, the change that takes place in some immediate effect produced, is properly attributable to the influence of the particular ingredient to which it is popularly ascribed.

Mr. Mill is fond of what he calls "negative conditions," in the constitution of cause. We shall not here occupy time and space in criticizing the word "conditions." We have only to note, that he uses this term in a different sense from that which we have defined. By *condition*, we mean the state in which some one subject or ingredient is found, the state which indicates some precise character of the quality which belongs to said subject; but by "*conditions*," our author means everything that can be thought of, such as the number of elements associated, and the elements not associated, and it may be also the manner of their association or non-association, though he does not say so; at all events, with our author, the word *conditions* means all the circumstances positive and negative which pertain to the question. We apprehend it would sometimes be difficult enough to find out what these might be. We might indeed lay hold of "the set of antecedents" which *positively* operated when brought into relationship; but what of the negative ones? Let us hear Mr. Mill himself. "If the only condition which can be supposed "to be unknown is a negative condition, the negative condition "may be spoken of as the cause. It might be said that a person "died for want of medical advice: though this would not be "likely to be said unless the person was understood to be ill, "and in order to indicate that this negative circumstance was "what made the illness fatal, and not the weakness of the con-"stitution, nor the original virulence of the disease." Can we compliment Mr. Mill on his philosophy here? Does any one doubt for a moment, when it is said that a man died for want of medical aid, that it was the influence of the distemper that occasioned the death in the circumstance? Even the mode of speech employed implies this much. And what does it express but simply this, that had some change been made in the condition of the patient, *i.e.* perhaps, had another ingredient been brought into play in the combination, said other ingredient would, by its influence, have counteracted the virulence of the distemper? In short, had the relationship been formed with such and such an additional element therein, the effect produced would have been different. We should have nothing to do with "negative conditions" in causality; for causality always, and without variation, operates in accordance with the positive conditions present, and the relationship in which they stand to

each other, or more philosophically and definitely, *with the relationship of the positive conditions* which are brought into combination. Things negative, not present, or not existing in the combination, can never be taken into account, when we look at the actual effect produced. The positive alone in their relationship constitute the cause. Nor will any example which Mr. Mill can produce impair this argument. He tells us: "it "might be said, a person was drowned because he could not "swim; the positive condition, viz., that he fell into the water, "being already implied in the word drowned. And here let "me remark (says our author) that his falling into the water is "in his case the only positive condition: all the conditions not "expressly and virtually included in this (as that he could not "swim, that nobody helped, and so forth), are negative. Yet, if "it were simply said that the cause of a man's death was falling "into the water, there would be quite as great a sense of im- "propriety in the expression, as there would be, if it were said "that the cause was his inability to swim: because though the "one condition is positive, and the other negative, it would be "felt that neither of them was sufficient without the other to "produce death." This is very strange reasoning. Upon the same principle we must argue, that no relationship constituting causality can be efficacious to produce its result, unless some other influence which is not there be wanting! The sun may serve to give light to the earth; but Mr. Mill would say, this could not be, unless some obstructions which do not exist were out of the way! When it is said that a man was drowned because he could not swim, it is simply implied that a man immersed in water cannot live; and farther, that the existing causal combination exhibited this relationship and nothing more; and farther still, that had another element been brought into operation in this relation, an element having the power of enabling the body to swim, the result would not have been that of drowning. Mr. Mill, in combating other views, asks whether it would be better to say, "A man fell because his foot slipped in climbing a ladder, or he fell because of his weight; for the weight and not the motion of his foot was the active force which determined his fall." The answer is obvious. The causality which constituted the man's safety was assuredly his preserving his feet upon the steps of the ladder. That, consequently, which

changed this relationship of the man to the ladder, in other words, the removal of a pre-existing ingredient, may properly be spoken of as the occasion of his fall. Again, says Mr. Mill, "if a person walking out in a frosty day stumbled and fell, it might be said that he stumbled because the ground was slippery, or because he was not sufficiently careful; but few people would say, that he stumbled because he walked." The ground, the man, the walking, are the conditions combined. Ordinarily, this combination is attended with safety to the man. But here one of the conditions is changed, in that the ground happens to be *slippery*. The causality therefore is changed, and, in order to meet this change in the ground, there is regarded a corresponding change in the walking, in order to secure the same result, viz., safety from falling. Were the ground to be so conditioned that a man had to walk on a tight rope, it is not to be supposed that the same condition of walking would operate for his safety, as on the ordinary *terra firma*. Every example shews that *the character of conditions* in the relationship plays its part in causality.

Mr. Mill proceeds to obviate an objection to the dogma that "the cause is the antecedent which the consequent invariably follows." Dr. Reid urged that, "according to this doctrine, night must be the cause of day, and day the cause of night." How does Mr. Mill answer this objection? Simply by saying that it is not sufficient that "the antecedent *has* always been followed by the consequent, but that so long as the present constitution of things endures it *will* always be so. And this (he adds) would not be true of day and night." Mr. Mill goes on, "we do not believe that night will be followed by day under all imaginable circumstances, but only that it will be so *provided* the sun rises above the horizon. If the sun ceased to rise, which, for aught we know, may be perfectly compatible with the general laws of matter, night would be, or might be, eternal." It is passing strange how Mr. Mill could, for an instant, suppose that this style of reasoning can be any answer at all to Dr. Reid. Why, what does Mr. Mill do? He does nothing less than change the very causality, in virtue of which the alternation of day and night takes place! He blots out the sun, and tells us that in that case there would be no day, but all would be night! Or which is equally flagrant in a question of causation, he de-

stroys the motion of the sun, or, if we will have it so, the motion of the earth, and he says, in that case, the sun will not rise! Why, by this method of argumentation, we may shirk no end of difficulties. Surely, if Dr. Reid's objection means any thing, it means that *supposing the same causality to be in operation for the time to come, as has been in time past,* and finding that under this causality, day has preceded night, and that night has preceded day, that the one has been the invariable antecedent, and the other the invariable consequent, and seeing this, fulfils the terms of this definition of cause, in that case the one must be the cause of the other! Mr. Mill does not meet the objection. And in truth, it is not to be met; for this definition of cause is egregiously wrong. We affirm that, in philosophical strictness, *antecedence and consequence have nothing to do with causation.* We may not, indeed, regard what is set before us as the several stages of a long process of causation, without of course marking antecedence; but this very circumstance only marks fresh interposition. What is usually called antecedence forms not the process of causality, but the preliminaries only which go to constitute the causality: they do not enter into the construction of causality; and so what are called "the antecedents" are but the dislocated ingredients which have to be brought together for the purposes of causality. What we say, therefore, is this: *When once the external relationship is formed, so as to apply the internal relationship, the causality is formed.* True it is that said causality may require time to develope its full effect, even as wine newly manufactured will require time to come to maturity; but what we affirm is, that when once the relationship is fairly constituted, which forms the causality, the effect lies in that causality; though the ultimate results do not immediately appear, it is there in embryo; and comes forth as truly as the plant from the seed, and the bud from the plant, and the fruit from the bud, and the seed again from the fruit. It sometimes requires a lengthened period of time, for a causality once established, to complete and perfect the phenomenon it is intended to produce, as when wine is ripened by time; but what is this but the operation of another causality, by exposing the manufactured substance to a new order of influences. In this sense there may be many stages of time, of time in regard to what may be called the process which

is going on towards development; but assuredly, this has nothing to do with the question of antecedents and consequents. There are no "antecedents" in the sense used by Mr. Mill, and the philosophers before him, because the causal elements, or ingredients which go into a combination, are nothing in respect of the causality as such, nothing *till a relationship is constituted among them.* What is the causality which constitutes day and night? It is obvious that, instead of the one being the cause of the other, because they stand to each other in the relation of antecedent and consequent, *they are both the result of one and the same causality.* The conditions are first, that the sun as a self-luminous body, should cast forth a certain effulgence, and that the earth as a non-luminous body, should be placed within the sphere of that effulgence, having one side exposed to the light, and the other in darkness; and second, that the earth should rotate on its own axis, by which the parts of its surface should be correspondingly exposed to the light, and again correspondingly thrown into the shade. We are not attempting here to account for the luminosity of the sun, nor are we attempting to account for the diurnal motion of the earth: these are *given* conditions, and as given conditions we have the two brought into a certain contiguity, thereby forming a fixed relationship with each other. What we say is that this *relationship* produces alternate day and night upon the earth. The relationship makes the causality; and the causality contains its own effect; and the effect is not day alone, nor night alone, but an alternation of day and night.

Mr. Mill takes up the question of "Permanent causes" of whose origin, he says, we can give no account whatever. These "permanent causes" are "the sun, the earth, and planets, with their constitutents, air, water, and other distinguishable substances," "The co-existence of these (he says) ranks to us among casual concurrences." "These Permanent causes (he adds) are not always objects: they are sometimes events, or periodical cycles of events, such as the earth's rotation, which (by the aid of other necessary conditions) is the cause of day and night, the ebb and flow of the sea, and many other effects, while, as we can assign no cause (except conjecturally) for the rotation itself, it is entitled to be ranked as a primeval cause." What does our author mean by "primeval cause?" Does he

mean a cause which is not itself a phenomenon ?—a cause which is not itself caused ? He says, "All phenomena, *except the primeval causes,* are effects either immediate or remote of those primitive facts, or some combination of them." What "primitive facts ?" The only antecedent referred to is the "permanent causes," just before spoken of. "The sun, the earth, and the planets, therefore, with their various constituents, air, water, and the other distinguishable substances, whether simple or compound, of which nature is made up" are "the primitive facts" in as far as they are declared to be "the primitive causes," of whose origin, it is said, we can give no account, nor indeed of the reasons of their existence.

That there is much in the arrangements of the heavenly bodies, in regard to which we can give no proper account may be freely admitted. Nor is this to be wondered at. They lie utterly beyond our immediate reach; they are so much beyond the field of our experience; we can only perceive them as spheres more or less immense; and like our own planet, having an appointed circuit to which they are confined. But surely we are but following the laws of strict analogy, when we suppose, in the first place, these to be bound up in the same great bundle of *creation* as our own planet. They must, as globes of space, we should think, be made of the same general substance, for they are planted in the same general astronomical category, and they are subject to the same general laws of gravitation and of rotation as our own planet; while, moreover, they seem mutually essential to one another. Whatever, then, happens to be the history of our own globe we should naturally think would *generally* be the history pertaining to them as mere material objects. This we, of course, say in a very general way; for it is to be admitted that their nearness to, or remoteness from, the sun as the centre of light and of heat may have affected them differently in ways we do not know. Secondly, if we have reason to believe that our own globe had a beginning, we have equal reason to believe that the globes in space had a beginning too. That the earth had a beginning seems to us first of all extremely probable, from the very fact that, being an inanimate object, exhibiting throughout a thorough *adaptation* to an indefinite series of ends and purposes, *which ends and purposes we know by our experience have their root in intelligence*

only, it *must* have had its conditions prescribed to it by a great Intelligence. And if this inference is *forced* on us with respect to the earth, it comes also to be forced on us with respect to the whole planetary system. But thirdly: an experimental examination of the earth's crust indicates very clearly and unmistakeably that the history of our globe is a history of separate creations—a history indicating a primitive chaos, so far as its primary state indicates anything positive—a history which points to an originally molten state, under which, by reason of its rotatory action, it had assumed its globular form—a history indicating a time when vegetation had been *introduced*, and likewise animal forms—a history indicating the formation of conditions as contents which are now wonderfully suited to the wants of its inhabitants—a history, therefore, indicating a preparatory process for foreseen purposes—a history declaratory of a gradual progress from mere initiation to a more and more perfect state of development, as a stage for further creations.

That the laws of Causation have been in operation from the beginning, so far at least as material conditions have been in existence, and that they have been fundamentally brought into co-relationship by Intelligence, we may not question; that the mere laws of natural Causation could ever have had a place in a subordinate sphere, apart from Intelligence introducing and combining the conditions out of which alone law emanates, or that they could ever have brought into being conditions and forms which did not belong to, and were not contained within, the relationship for the time subsisting—which in fact was not within the circle or range of the category of said relation to produce,—is one of the most monstrous theories, which only this boasted age of ours has been distinguished to proclaim. What we say is, that when a relationship of Causality has been once formed, the law of *necessity* demands (even that necessity which declares a thing to be what it is, and its function to be what it is) that the phenomenon be neither more nor less than what the aggregate of conditions in that relationship contain. The phenomenon will of course vary, if the conditions come to vary. But here is the principle we advance, and it will come to be admitted universally as sound, that while the phenomenon will vary, even as the conditions vary in any Causal combination; yet, *so long as that Causal combination is main-*

tained unaltered, the circle of variation descriptive of the change on the effect, must be measured by the precise modification of the conditions which are formed in the relationship to produce that effect. Now, what we wish here particularly to notice is, that an indefinite circle of variations, as applicable to the character of any phenomenon, is something very different from the introduction of some new quality not to be found in, and not to be derived from, the associated conditions which constitute the Causality. Any of our common vegetables or animals may be made to present an indefinite variety; yet, with all this variety as the particulars of a general species under one common parentage, or what would be more philosophical perhaps, under one general causality; it is this fixity of causation which determines the race, so that one race of creatures is thereby separated from another race. And what is it which bounds the race? And what is it which introduces a new race in any case? We answer, the introduction of a *new quality* into a subsisting relation.

Now if we have, as we do have, at the foundation, evidence of a supreme rational Intelligence; in as far as all our experience shows that matter to begin with, takes it *adaptations* in its various express modifications to the fulfilment of ends from mind; and that the laws of matter only *propagate* these adaptations, according to the scheme of its specific causation, when once intelligence has constituted the same, and appointed its place in the category of relationship, we hold, we must hold, whilst the law of causality has been permitted to have its free and full exercise in every circle of permitted relationship, that wherever we have the evidence of a new or fresh category of being introduced, with a distinct boundary line betwixt it and an inferior category, *there* we have evidence of an Intelligent rational Agent, in the constructing and constituting of a new Causality, because in the very nature of things, *the old Causality could only be what it is, and could only produce what lies in its bosom:* it could not produce properties the very germ of which it has not in itself. Take the case of the ape as thought to be a stepping stone to man, and as thought also by some, through its own wonderful leap, to have got hold of the quality of man, and so become *man!* Letting alone the outward conformation, what should we say is the distinguishing quality of

man as compared with the ape? Perhaps we may be told that it is *reason*. But this is but a vague word so far, in that it properly signifies the power of cognizing harmonious ideas, and consequently of discerning want of harmony; and it may be said that some animals have this prerogative to some extent. But we think it may be fairly said that there is a certain class of ideas, which even the most gifted of the lower animals do not have; and this is *the discernment of the wants of the not-me*. The lower animals have each its own impressed instinct, as a sensation which they follow, but not one of them has the prerogative which the very lowest of the human tribes have, viz., a general power of discerning the conditions, and therefore the wants of others, as things to be considered in relation to supply, and consequently through this discernment, as rousing or prompting a sentiment to help others in their time of need. The parent indeed, among the lower animals, sees and feels for the peculiar wants of its offspring; but this is an instinct for a time confined to its offspring, and, as a rule, lasting only so long as the offspring are in need of help; while man's distinguishing characteristic is *an ability to apprehend the circumstances of others*, and their circumstances at a coming time, and to adapt himself thereto, and to provide accordingly, whether for their good, or for his own; consequently, to have a wide range of thought, and of action, from which they are necessarily excluded. We say then, that whatever other element be wanting in the monkey-tribe, which prevents the causation of which he is a phenomenon from producing a man, *this is one*. To the ape-category there does not belong the property of envisaging *what concerns the not-me;* and to all eternity, the category to which he belongs will not generate this. How can development bring out this? Development! The word is not understood by those who so misapply it.

We have thought it needful thus far to take up the question as to what a causality, once constituted, can accomplish, and as to what it cannot accomplish; and if ever the inductions, which are so dependent upon a correct view of causality, are to be fully and fairly measured, we must settle this all-important question. Our principle is, that *there is fundamentally no de novo constitution or construction of a causality, but what arises through the exercise of a rational*

purposing Intelligence, bringing together means for the securing of an end—that blind matter, while entirely subservient, when constituted with all its conditions in due relationship to fulfil the purpose, and to propagate the means of fulfilment, according as the Causality embraces this, *cannot in the nature of things create new devices.* We therefore heartily protest against the doctrine of our author which would speak of an "original natural agent" or "permanent cause" as "primeval causes," or "primitive facts" which had no beginning as natural agents. We cannot but regard it as trifling with what is clearly brought out in the range of our experience, when we hesitate at once to ascribe to a primary Intelligence what is rationally resolvable into nothing else.

Mr. Mill declines to go into the department of what he calls "efficient causes." An efficient cause he says is a cause which is not itself a phenomenon. He is disposed to regard will as an "efficient cause"—a cause which is not itself a phenomenon, and therefore he does not meddle with it. Its exposition as a phenomenon in the ordinary category of causation he considers as beyond our reach. We cannot entertain this view, and though we have elsewhere taken up this subject, we may be permitted here to point to the great fact, that *will is a phenomenon brought out under the operation of causality,* as unmistakeably as any physical phenomenon with which we are familiar. *Will is the effect which arises from a certain relationship of ideas with the basic condition of self:* there can be no intelligent will without ideas. Will, that is not intelligent, is not properly will. Will is that emotion of the mind which is manifested under the name of volition. Till it be accomplished under the action of volition, will may be suspended, or even suppressed; but then, in that case, it exists only as the impulse or desire or craving, and can hardly, in philosophical strictness, be dignified by the name of will. It only becomes will when, amid contending impulses, one impulse comes forth supreme, and the others are therefore restrained.

What then is the causation under which will is manifested? It is obvious, from what we have now said about contending impulses, that we must inquire preliminarily—What is the Causation under which impulse or emotion is generated? We have already said that this is referable to ideas. There must

be a combination of ideas, under a certain definite relationship. And yet this is far from satisfying the problem, if we were to say, that will simply arises from a combination of ideas *per se*; for then it might be asked, Should not the same ideas in the same combination produce the self-same will in all parties? Of course they should: and yet, this is not realized as a fact: quite otherwise. What then? The reason is obvious: the *base* on which the ideas operate is different in different individuals. We call attention to this fact, that wherever there are ideas received from the external world, there is beforehand, as the *very basis* of mental temperament, that constitutional *self*, or ground-condition, which forms the foundation of the man or the mental personality, and which therefore is the ground of operation for ideas, as they are received in the course of observation and experience. The ideas which breed impulse, are those which affect said mental ground, as constituted with either a sensitiveness on the selfish side, or a sensitiveness on the sympathetic side, or on both. There is in man a department for each; though it is most frequently developed chiefly on the side of selfishness. In the lower animals, save in the case of parents nourishing their offspring, ideas excite impulses, almost exclusively on the side of self. We say *almost*, because in the case of familiar friendships between two dogs for example, we see an impulse from the region of sympathy not unfrequently exercised. As a general rule, the side of self is the stronger. If the domestic housewife goes forth with food for the poultry, the very sight of the food begets in them an impulse, and they run to it accordingly, each for the sake of self. It is the case generally with the lower animals. But if the representation does not affect self, no impulse is produced. The poultry are perfectly unconcerned if you have no food in your hand, or nothing which particularly attracts them. If the material in your hand should be something which is not food, or food of which they cannot partake, they are perfectly quiescent; and your presence is unheeded. Take the case of man: impulse arises immediately by the sight of whatever affects himself, as in the case of the lower animals. If he is hungry, the sight of food *excites* him to eat: if he is thirsty, the sight of water *excites* him to drink. If he is pained, the sight of a liniment *impels* him to apply it. If he is in danger, the sight of a refuge *impels*

him to flee to it: If he is a creditor, the failure of his debtor *excites* vexation. And so in a thousand similar cases. But man is aroused on the side of not-self, in corresponding circumstances. If a man sees his fellow-creature in difficulty, or in distress, he is *impelled* to relieve him; that is to say, the idea received of another being in suffering so affects the sympathetic part of our nature, as to beget on that ground an impulse for the relief of the sufferer. We might go through the whole category of impulses, and similarly shew their production, as the offspring of ideas operating on what is regarded as the peculiar basis of our manhood, our sympathetic system as properly a part of self, being prominently developed. Thus the whole course of our appetites and other cravings, our desires and affections, and all impulses of whatever sort, are begotten by the entrance of ideas more or less affecting our being; whether on the selfish or on the sympathetic side of it.

There is, of course, a set of ideas which does not directly create any emotion, or does so very indistinctly and insensibly; for example, the ideas of the things apprehended by the mere learner, whose object is simply to replenish his mind with a store of knowledge, or it may be with that instrumentality or agency, through which he can acquire knowledge. But if the teacher exhibits the rod, or imposes a task for some alleged offence, the perception of the coming punishment at once *excites* a strong emotion. Ideas which do not affect us, such as the ordinary details of history, or the simple facts of geography, or the steps of a problem in mathematics, create no emotions; and even statements about the success of some one whom we know not, leave us in a feeling known by the name of indifference: little or no emotion is created. So much for impulses: now for will.

Impulses, we have said, are the phenomena produced by the relationship of ideas in combination with that mental self which reflects the state and temperament of the body, and which for the time occupies the pure ego; and said impulses or emotions always correspond in character to the precise conditions brought together in said relation. *Will is the prevailing emotion*, having its expression in volition. Will is the ultimate finding of the soul, as giving free utterance to an impulse. What then is the Causality of will? What gives to one emotion power

and prevalence, more than to another? What is it that locks up one emotion, and lets loose another? On what principle is will exercised? We have an answer: If there be no counteracting emotions, the emotion that is raised in the way we have pointed out, of course becomes will at once. This is the case as applicable to most impulses among the lower animals, and also frequently among ourselves. If dinner is announced, I rise and go to dinner, there being no obstructing impulse to the contrary. But if at that moment, I am engaged in writing a letter of importance, which must be dispatched immediately, I postpone the dinner for the sake of the letter, because the letter is, in the circumstances, the more pressing of the two. Here then we obtain a principle, that in a case where, we shall say, Conscience is not at all concerned, two emotions encounter each other, that emotion will assuredly obtain the ascendancy which has chief acceptableness to the ego. On this principle, and in such circumstances, will is always evolved. But it may be said, man can do the contrary, and may sometimes act contrarily, that, in short, he can do as he pleases! *As he pleases!!* Why, this is the very point. It is because he is pleased or satisfied with one way in preference to the other that will is exercised, and becomes volition. But it may be said that he can do as he does not please! In some sort of sense only he may, in as far as man may entertain a freak, and oppose a tendency for no other reason than that it is a tendency. But it will not bear analysis. Why, the very freak has for the moment the mastery over him. There is no such thing as the excercise of will without a motive. It may be said that man will do things contrary to his will, when he submits to authority, and does that which is disagreeable to him, because required to do it. What then? Why, this only explains what we have said, that man, as to his will, obeys the stronger of two contending emotions. It may be disagreeable work for a boy at school to learn his task: if left to himself, his will would be to let the work of learning alone; but the authority of the master says, learn it, and all the influences, with which his command is surrounded, prevail to counteract all opposing emotions, and so the will of the master becomes the will of the scholar.

But when mind is matured, the great self-regulative power of will is Conscience. And what is Conscience? And how does

it arise? And how comes it to control our other emotions for the purposes of will? Is it to be said that conscience is, some *efficient* cause after all, a cause that operates without being itself a phenomenon. If not, then we ask, What is the Causality under which Conscience is produced? Conscience, we say, is itself a phenomenon, yes! like every other force in nature, with which we are acquainted; and *is generated from the presence of certain ideas in the relationship, just as common impulses are.* Let it be noted, that Conscience follows on the back of ordinary impulses; and *must so follow*, from the very mode of its generation. And we may readily see, that in this consists its value; for its adaptation and application, has reference to the common impulses that are stirred up within us; and hence, its regulative and controlling power is thereby asserted, either in the permission, or in the checking of said impulses, as begotten by those when they do arise. We have said that, but for the production of common impulses, there could be no conscience. How then is conscience produced? And what definition do we give of conscience? The definition we give of conscience will point to the circumstances under which it is produced. We say then, Conscience is that *moral* impulse which arises on the back of an ordinary impulse or emotion (of a physical or animal impulse, of a carnal or wordly emotion) and is procreated by the intuition of what is to us the truth or the error (the rightness or the wrongness) in the application or volition of said ordinary impulse. Conscience is consequently endowed with the power to permit, or to deny, or to modify the said ordinary impulse. The workings of this moral power are observable in ourselves every hour, if it has not become seared. We cannot be engaged in an act, which affects the wellbeing of ourselves, of our fellow creatures, or even of the lower animals, as susceptible of pleasure and of pain, but this moral emotion comes into play. It is this very element that constitutes its morality. What is morality? Morality is the due adjustment of ourselves to ourselves, and to all others that are capable of happiness or misery, by our connexion with them. When, therefore, I am about to do something (say) to a fellow-creature, the cognition of that act, as it affects him, arouses in me that moral energy called Conscience, which either calls for its being done, or which calls for its not being done, or which calls for the suspension of its being done now.

A medical man has a patient with a diseased limb. It would save him a world of trouble, while he would also have an opportunity of displaying his skill before some students, as learners, if the limb were at once amputated; and he has an impulse accordingly. But his medical skill hints at the possibility of the distemper being healed without amputation. Accordingly, Conscience crops up, and utters its voice. In what way? First, there is an insight into the patient's condition, and through this into the patient's best estate. Second, there is a comparison of the prompted amputation, as deprivation, with that estate; and they not only do not correspond, but he feels for him under this deprivation. Hence Conscience. Judgment accordingly pronounces against amputation; and Conscience is neither more nor less than the emotion which arises against the impulse for amputation, as being a serious injury, whether that impulse comes from a lower side of self, or from another. Conscience therefore arouses the medical man to say, Shall I deprive this man of a limb, which may yet be spared to him? Conscience, it will thus be seen, arises out of the intuition of the effects of applying the ordinary impulse to the object. Conscience is the *regulative* impulse, produced by the presence, and a consequent insight into the effects of an inferior impulse, whether affecting ourselves or others. Any living creature (self as well as others), whose happiness may be affected by any act, constitutes a ground of moral law. I may have a strong impulse to go and dine with a friend, but if I have a foresight that his dinner will injure me, then arises that controlling impulse which says, don't go, or don't go so as to injure yourself thereby.

We need but take up the plays of Shakspeare, for example, to see in his pictures the workings of conscience and its ineffectual contendings where the natural or primary impulse is very strong. Lady Macbeth, as an instance, seeing before her the glory of regal honours, calls upon the spirits thus: "Stop up the access and passage to remorse, that no compunctious visitings of nature shake my fell purpose, nor keep peace between the effect and it"—that is, interfere to check the cruel purpose of murder. "I feel," she says, "the future in the instant." The sight and possession of regal sway became a passion. Macbeth, again, exhibits the powerful presence of conscience in curbing an unlawful ambition. "If it were done! when it is done, then

't were well it were done quickly: If the assassination could trammel up the consequence, and catch with his surcease success: that but this blow might be but the be-all and the end-all here; but here upon this bank and shoal of time we jump the life to come." And then, beginning with Lady Macbeth, who hath the spirit of a devil, he says, "we will proceed no farther in this business: he hath honoured me of late," &c. And when hounded on by his wife to the fatal act, the reeling and confusion of his senses are made manifest in the following soliloquy: "Is this a dagger which I see before me—the handle toward my hand? . . . Art thou but a dagger of the mind—a false creation proceeding from the heat-oppressed brain?" Even Lady Macbeth says, "Had he not resembled my father as he slept, *I* had done it;" that is, conscience, when absolutely gone in respect of others, was yet not gone in respect of her father. She might with the dagger slay another, but she was not so absolutely seared as to be prepared to slay her *father,* even for the sake of obtaining a kingdom and its crown.

It will be obvious now as to the causality by which conscience is begotten. As all *ordinary* impulses fundamentally arise from the presence of an idea or ideas affecting the *me;* and this according to the side of the *me* in which they happen to stand, whether as referring to the department of selfishness or of sympathy; so all *conscientious* impulses arise from the idea or ideas presented by the execution, or the foresight of the execution, of said ordinary or fundamental impulses, and according to the mode in which they would affect the object whom they concern. For example: Pilate had an impulse aroused in him by the priests, and rulers, and people, to crucify Jesus Christ; but, when he foresaw the execution of this upon an innocent man, the impulse arose to save Jesus. In every case the presence and the power of conscience is correspondingly generated. And this clearly explains to us how, and why it is, that, while all have a moral nature, who are endowed with a rational nature, the exercise of the conscience, as the law of the moral nature, the law which serves the right and is opposed to the wrong, is yet *a law which abstractly is right only so far as the ideas are correct out of which it is generated, and which for the time prevail in the mind.* Paul in his ignorance had a conscience very different from the conscience which he had

under enlightenment. "Verily (he says) I thought I ought to do many things contrary to the name of Jesus of Nazareth." However, it ought to be noted, that when a higher light comes into the soul from God, and with the *authority* of God attached to it, the conscience then becomes elevated to its highest power, and of course to its purest form of expression. It is then that, in our case, it becomes the religious law of our being.

We return then to our author, and we say we know of no such cause in nature as an "efficient cause," in the sense of its being absolutely and purely alone in the exercise of its power: we know of no cause which is not the offspring of affinity betwixt at least two qualities of objects. Throughout the whole range of chemistry, in its physical, and physiological, and psychological aspects, it invariably requires two or more ingredients combined in a definite *relation*, as a cause, to produce an effect.

No doubt we may be referred to the First great Cause of all; and we may be asked whether the likelihood is not in favour of a causality very different from that which we have described? We answer, the likelihood is all the other way; and farther, if we are to trace up what we find in creation to the Author of creation, we have no right to suppose a causality existing in Deity totally distinct, and different from that which we find in all His works—*i.e.*, a causality of which we have no manner of experience whatever—a causality of which we can give no sort of account, and of which we have, and can have, no understanding at all. We have no right to *invent* something utterly out of the range of all experience, and which, when invented, is an absolute mystery to us, so that we know not if such a thing can have being or not. But, when we trace our way up through the works of God to God himself, it is said we surely arrive at a Being "*absolutely one and simple.*" In the use of such language we scarcely know what we are saying. What is absolutely one and simple, in the sense of being unconditioned, is wholly opposed to the notion of Deity in his positive personality. For example, we are obliged to suppose that He from whose mind all the adaptations of creation spring, and in whose mind all the complex relations of creation were devised, must necessarily, in respect of said variety, have embraced that out of which all variety comes. And farther, as all our inductions lead to the conclusion, that mind is but the subjective form of an

objective existence, so we are brought also to the conclusion, that the existence of that Being whom we regard as Deity must needs, in respect of the very material of his existence, contain that in himself which is the foundation of all that is in the universe. We may be unable to enter into the *modus operandi* of the mind of the Deity: one thing, however, is certain, that we can logically carry up inductions from what takes place in ourselves. To invent something of which we have no experience whatever, and which, when invented, is an absolute mystery to us, in regard to the process of its operation, is assuredly not a permissible act. If, however, we can carry a transcript of what pertains to the operations of our own minds, as the loftiest mode of thinking of which we have any experience, and seek to apply a similar mode to the Divine Being, we have again to consider whether such a category of thought would answer all the lofty requirements of his Being. Of one thing we confess we do not see the inappropriateness, and it is, that the law of causality, which we find *universally* operating in the world, should also be the very law of causality belonging to the Deity himself. If among ourselves we find as an indisputable fact, that there is no such thing as mind, apart from a physical framework of which it is the exponent; and, moreover, if we find that mind is always and invariably the subjective or mental reflection, fundamentally, of the physical framework to which it belongs, and of its experiences; is it impossible for us to suppose a *form* of the Divine Being, which stands, so to speak, objectively to that mind as the subjective manifestation of his own being? Or rather conversely, is it really possible for us to conceive one all mere mind, without that substantial selfhood of which mind is the representation? Is it possible, moreover, to imagine a root or fountain of individualities, without of necessity imagining said root or fountain to have individuality; and if individuality, as a matter of course, to have personality and form? It is absolutely forced upon us, that there must be the *personal* as well as the *impersonal* in Deity—the conditioned as well as the unconditioned in the Absolute; and if so, that the Conditioned must be replenished fundamentally with all that can furnish a world physically; and his all-perfect conditions must admit of superinducing on the physical life of the creature that which gives a mental consciousness of its own conditions.

Here then is the point with respect to the first Foundation of all:—Having an intelligence of his own conditions absolutely of course, and having an intelligence of the susceptibilities of these for the purposes of creation, are we warranted in applying any other law of causality to the Divine than what we find everywhere, and without a single exception, in his world? If we do, we illogically leap to conclusions for which we have no warrant, and for which we have no ground, of any sort. We feel ourselves tied to the conclusion, that what we find in ourselves, must fundamentally be the the law of causal operation also, in the Divine. If not, how, on the one hand, should we be regarded as made in the Divine image? or how should we ever become partakers of the Divine nature? and how, on the other hand, should we ever come to connect God with his works, and how should we, as a part of his works, ever be carried up into the bosom of God in harmony with Himself?

No doubt a mighty theological question would come to hang upon this dogma, viz., How in that case could Deity be cognizant of all his works, from the beginning of the world? and farther, How could Deity be regarded as Infinite and present, over all his works? These we admit to be questions of the highest importance, and we willingly face them; but as we have treated of these elsewhere, all we shall say here in regard to the former subject is this, that it is to be remembered that all the works of God are to be regarded as the creation of a series of causalities, that is of relationships of certain conditions in combination, and that however systematically united in the series of a great connected chain, and that however free and varied each causality in that chain might be, and is, within its own sphere, for any modification, and consequently for any variation of details, yet these circles of operation, constituting genus, and species, and race, *must* each maintain its own created sphere and limit of being, as the sphere of the race; and as a matter of course, thus fulfil its Maker's designed purpose. In short, the law of individual freedom is exercised in subordination to the law of the necessities of his being. In this aspect, Deity is, and must be, from the beginning cognizant of all his works.

Again: all we shall say here, in regard to the latter subject, is, that we mistake in supposing an infinity of local extension, as the necessary prerogative of the personality of Deity. In

regard to the impersonality of Deity, this of course is essential, because nothing can exist or subsist which has not its foundation in the unconditioned as admitting all, and giving energy to all, and without which no operation could be manifested, and no expression of a fact could be pourtrayed. But it is totally different with respect to the formal, the positive, the personal, the conditioned Being, by whose hands all things were wrought, and adjusted, and placed in the great chain of creations. It is sufficient to know that He devised all these, and executed all these, and that there is *no limit* whereby He could be bounded in the production of His works, or in the cognition of their states.

APPENDIX III.

A REVIEW OF THE FOUNDATION AND CHARACTERISTICS OF MATTER.

It would extend our pages in a way not intended, to give any sketch, however meagre, of the opinions which have been held as to the foundations of our cosmogony; or as to the answer to the question, What is matter? Nor shall we here enter upon the view which Berkeley, and many distinguished Germans maintained, that what we call matter is not matter. We have elsewhere discussed this subject, and feel bound to accept the intimations of our Perceptions, as the very foundations of all affirmation or denial.

Locke defined matter to be "an unknown support of known qualities." Had he termed it 'known qualities inhering in an unknown support,' he would probably have approximated more closely to the truth, because the burden of the question has regard to the *qualities*, rather than to the *basis* that supports them, although reference cannot properly be made to the qualities, without pointing also to the ground on which they rest. It is in this view also, that we can properly distinguish betwixt matter and mind. Mind in some sense might be spoken of as 'known or recognised qualities inhering in an unknown support.' The recognised qualities are Perception, Imagination, &c., and the sub-qualities might be regarded as the subjects or themes of these. The difficulty then would be to distinguish matter from mind, by such a definition as this philosopher prescribed. Priestly regarded matter as mere attraction and repulsion; but it is obvious that beneath these as phenomena, he must have begged something as the subject in which the force operates; and that something becomes the thing to be

investigated.* Leibnitz, it is well known, regarded matter as made up of monads or ultimate points; but still, the question arose as to the characteristics of these monads, so that no real information is imparted by such a hypothesis. It does not help us in the least, to say that matter is made up of ultimate atoms, having solidity, impenetrability, massiveness, moveableness, &c., as Newton supposed. Nor indeed can we be enamoured of the definition ascribed to Boscovitch, that the ultimate atoms were such as had *at once* an attractive and a repulsive agency,—attractive, so as to bring them near to each other, and yet repulsive, so as to keep them separate from one another, by a certain distance; for after all, letting alone the questionable accuracy of this dogma, the farther question arises, whence proceeds this operation of attraction, and of repulsion? Faraday admitted "the conception of atoms," as centres of force, as regards the phenomena of crystallization, chemistry, and physics generally; but he tells us that he felt great difficulty in the view that concluded for atoms more or less apart, and thereby constituting what is known as extension. He held that the atoms truly touched one another, and this not in solids merely, but in gases also, as well as liquids, without any intervening space. Moreover, he held that matter and the atoms of matter, were mutually penetrable to their very centres, and hence that the atomic theory, while essential to the constitution of matter commonly so called, was not primarily or fundamentally essential to the nature of substance. He regarded the

* Dr. Boase, in his "Philosophy of Nature," says, "We posit Attraction + Repulsion = Matter. By attraction, is understood the power of attraction, an attractive force capable of operating according to an innate rational law of action; and by repulsion, the power of repulsion, a force similarly constituted, but of a directly opposite character; and lastly, by matter, is understood a union of these correlative forces, a dualism which has a peculiar characteristic of its own, when its constituents are equal, but which partakes of that of either when one or other predominates." Such views make confusion only more confounded. It is freely granted that in order to the constitution of matter we must postulate something; but what is here postulated? Why, two opposite entities which yet are not entities, in that they have no substratum in themselves, but whose collision yet constitutes substance! Again, they have "reason-directing" powers assigned to them, while yet they are unconscious! Farther, and above all, such a postulate begs the whole question of law, as a fundamental mystery, of which no possible exposition can be offered.

phenomenon of electricity, cohesion, gravitation, &c., as all referable to one force in matter. He compared Ether with common matter, but was confounded by the distinction, that common matter was ponderable and subject to gravitation, while Ether was not. "Perhaps I am in error (he says) in thinking that the idea generally formed of the ether is, that its nuclei are almost infinitely small, and that such force as it has, viz., its elasticity, is almost infinitely intense. But if such be the received notion, what then is left in the ether but force or centres of force?" It is, we think, obvious that while Faraday shrewdly suspected that Ether, from its intimate association with matter, and sympathy with matter, in the deepest details of its phenomena, might be the very basis out of which matter is constructed, yet failed to distinguish betwixt *force* and the *capacity* of force; and farther, that he had failed also to reach that law in causality, which demands one quality in affinity with another, in order to constitute *force*. He begs the question of force, and posits as his foundation "various kinds of *lines* of force;" and these too as having a subsistence apart from matter! "For my own part (he says) I am inclined to believe that when there are intervening particles of matter (being themselves only *centres* of force), they take part in carrying on the force through the line; but that when there are none, the line proceeds through space." Hence, it is obvious that he had no proper notion as to what constituted the *foundation* of force. He tells us, "we know matter only by its forces." This is perfectly true; and yet, looking to the fact that it is quality which is the element perceived, would it not be as correct to say, that we know forces, only through matter? If we are told that we might know forces through mind, the question still recurs, Do we practically know mind itself, apart from matter? For ourselves, we cannot imagine a separation betwixt matter and force; for if matter is made up of qualities, yet what but force gives expression to qualities? We cannot, on the one hand, conceive force apart from the subject of it, *i.e.*, we cannot imagine the term force to have any validity, and therefore any meaning irrespective of the substantial *sphere* which comprehends it, nor can we, on the other hand, imagine the existence of quality as the condition of aught existing, without subserving force as the inherent energy in virtue of which it has its validity. It seems to

us then, an utter impossibility to reach a science of force so long as we posit the *a priori* maxims, that there is on the one hand a something which we call matter, and on the other hand a something which we call force; and that these are by any possibility separable from each other. The doctrines of a primary impenetrability, and of porosity as the supposed basis of matter, (and inconsistently supposed as apart from force) seem to have favoured this view.* But if it be true that atoms in gases, as well as atoms in solids and in liquids, *do* touch one another; and if it be true also that one gas may be found to "act as a vacuum for another;" if it be true that "we may cast into potassium *(e.g.)*, atom for atom of oxygen, and again, both oxygen and hydrogen, in a twofold number of atoms, and yet with all these additions, the matter shall become less and less in bulk," it is tolerably obvious that the doctrine of impenetrability is quite an illusion, and that the atomic theory, as an ultimate necessity of primary substance, as such, is not well founded. The doctrine of transmutation, if it were fully established, would seem to favour this theory.†

Kant and his followers generally regarded matter as penetrable throughout, so that when a perfect solution of one kind of substance takes place in another, both are absolutely suffused, each ingredient being uniformly diffused throughout the mass. Further, he held that the world owed its present condition to the balance existing between two forces, viz., contraction and expansion. Some of the Germans have explained everything by the two forces of expansion and compression, making out matter to be the result. The feature which appears to us unphilosophical in most of their discussions on this theme, is the resolution of phenomena presented to the senses into mere forces which have no positive *substratum*, no positive *foundation*, wherein they can properly be regarded as having their *origin*

* Newton's particles were hard indestructible atoms, on which natural forces acted through the pores or intervals of junction, which natural forces were unknown metaphysical substrata of which no account whatever could be given.

† "By mechanical means all kinds of matter may be reduced to powder, the fine particles of which would not appear very different from each other; but each atom has been impressed with properties peculiar to itself, which man has no power [mechanically] to change. To nature alone

proclaimed. It is curious to observe how some of them have divulged maxims which seem to have a deep foundation in truth. For example, when Schelling declared that "Nature is Spirit invisible," and that "Spirit is invisible Nature," he uttered a saying that has (as we believe) a profound basis of reality. When Hegel declared that "the nothing exists," and that the condition of all existence was "the identity of contrarities," he uttered a paradox which, had it been otherwise expressed, might have highly commended itself as to the con-

belongs the mysterious property of transmutation. Every atom is invested with properties peculiar to all of its class; and each one possesses powers by which these properties are modified and the character of matter varied. We regard the *ultimate atoms* of matter as points beyond the reach of our examination, which unite to form molecules, as molecules again combine to form the *particles* of the mass, which we may regard as the limit of mechanical division. In the great operations of nature, changes are produced which may be regarded as instances of transmutation. Charcoal, graphite, and the diamond are totally unlike each other, yet we know they are each composed of the same atoms. We know that silicium (the metallic base of flint) is capable of assuming two or more different states; and sulphur, selenium, phosphorus, and arsenic are susceptible of three remarkable changes. Copper, iron, tin, and manganese are known to exist in at least two states, and many of the rarer metals exhibit the same peculiarity. Hence, may we not infer that some of those substances which we now term elementary are but dissimilar conditions of the same element? The remarkable resemblance between many of those bodies strengthens the speculation. The experiments of Faraday prove that all matter is in certain polar conditions, having, apparently, powers of mutual attraction and repulsion. Franklin supposed the minute atoms of bodies to be surrounded with a fluid or Ether, which they condensed upon their surfaces with great force, and hence experiments showing that this is the case, whilst he regarded the atoms of the Ether itself as mutually repellant, thus establishing an equilibrium of forces." (Condensed from Hant's Poetry of Science, c. iv.) How very inadequate our powers are to deal with the question of atoms may be conceived when we are told that a single grain of gold may not only be divided into 490,000 visible pieces, but, if attached to a piece of glass, it may, as gold leaf, be subdivided into 4,900,000,000 fragments, each of which is visible by means of the microscope. Yet even here we have not approached the possible limits of subdivision, because, in coating silver wire the covering of gold may be made far thinner than the gold leaf originally attached to it. When a substance is dissolved in any liquid, the subdivision is carried still farther. (See Miller's Elements of Chemistry, p. 4.) The difficulty is to suppose that dissolving does not mean interpenetration, this being the characteristic of chemical affinity.

nexion of "Being and non-Being." The highest mathematical symbol, which, to Oken, was the type of all creative acts, and of which he regarded all positions in creation as but tautologies, was + O —, which has been explained as *inherent self-opposition, and quiescence between the two.*

A theory has been more or less of late expressed, which regards Ether as directly the foundation of the economy of matter, in as far as it is the universal medium wherein matter functions. It would be well if we could obtain further acquaintance with this universal medium. In the course of our discussions on the Unconditioned, we have sometimes been disposed to ask whether Ether, which men of science have been constrained to regard as not only the interstellar medium, but the encompassment of all material creation, could be regarded as the ultimate negation in respect of a primary basis of existence; and so long as we could contemplate this medium as absolute emptiness, with the capacity of giving expression to condition displayed to it by the construction of matter, the thought did not seem irrational or worthy to be despised; but if it can be shewn that Ether is itself inherently endowed with positive properties, of course this view of so regarding it as mere negation would have to be given up. Of course, under any circumstances, it is to be considered as *an* unconditioned, in as far as we have experience of a successive series of media, varying in respect of density, each, so to speak, containing the other. We have not merely the fact of the ordinary substances of the earth being convertible from solids into liquids, and from liquids into gases, by means of heat, but we have the normal media of atmospheric air, and of vapour therein condensible into water, and of Ether underneath them all, as the medium in which they function. We cannot, therefore, escape the conclusion that Ether has some fundamental connexion with what may properly be termed the phenomena of matter. If we have reason to infer that Ether is fundamentally positive in its essence, a very interesting train of thought arises. The formula would be: Granting that this element were everywhere uniformly diffused throughout interplanetary space, as we are bound to believe from the operation of gravitation, and the convection of the conditions of light and heat, as emitted from the sun, the question arises: May it be regarded as that simple un-

deviating uniformity, or homogeneous unity which lies at the foundation of all matter? If so: the further question then comes to be—How can variety be obtained from this simplicity? How can complexity be derived out of this unity? The answer given is, by *compression*, or what is called *condensation*; and that in this way it is not difficult to imagine that an alphabet of a material economy might have been constructed—each letter, as a specific atom, having its relation and function more or less bound up with every other; and, consequently, that we might thus have a material alphabet constructed for the Cosmogony of the Universe—*i.e.*, out of which we can readily imagine the worlds to have been framed with all their primary elements in co-relationship with one another; in as far as they would all have this fundamental function from the primordial Ether. The advantage of this view is (if it can be maintained), that it necessarily implies the affinity or relationship of qualities, as all of one family,—all of them being directly or indirectly traceable to one and the same root-quality; and granting that Ether holds, as its essential attribute, absolute potentiality, as being essentially spirit, and therefore holding this as its inherent attribute, we should thus have, as embodied in its very foundations, that out of which the whole material economy and its operations are derived. We should thus have before us the principle of the construction of qualities, and their indefinite multiplication, while we retain also, all the while, the primary Ether, not only as the cognate mother, out of whose bowels all creation has its being evolved, but as the universal spirit in virtue of which all its operations, in the forces of nature, are under Deity maintained.

All we can say with respect to this view is that, to us, it is sufficiently rational and natural, and therefore inviting. It would, no doubt, destroy the idea that we have mooted, as a possible supposition, that Ether is the unconditioned Absolute and Infinite, in that, by the very hypothesis now stated, we are constrained to lay down the subsistence of a *positive* basis, as the universal substratum in which all positive qualities inhere, and out of which all positive qualities are evolved. It occurs to us that the view now stated has all the advantages of analogy to support it, while, so far as we can see, it would be contradicted by none of the facts of experience, on which Science is grounded. It has the analogy of Abstract Science to support

it. In Arithmetic, for example, we have the digit 2 as comprehending the *compression* of unity into itself, and the digit 3 as that unity *tripled*, and so on indefinitely. Having then these digits, to the number of 9, as so many specific factors, all having an intimate relation to one another, we can, by the mechanical adjustment of them, construct a highly complicated science of numbers. If then, we were, from this analogy, to suppose that in thus constituting the elements for the material of the Universe, the Creator constituted each separate quality under an atomic formation peculiarly its own, we have thus the foundation laid of an A, B, C, of materialism: each atomic quality having its own peculiar characteristic, and its own mode of adjustment to other atoms, when left in free and spontaneous relationship in the case of combination. And farther, as the *atomic* structure of matter must be regarded as the foundation of the physical framework of being, so the *cellular* structure of matter must, in like manner, be regarded as the foundation of the physiological framework of being—the former being, in certain circumstances, swallowed up in the latter, in as far as the latter, in its life and function, had to be fed and supported by the former.

An objection might not unnaturally be taken to the hypothesis, that we have no possible experience of the supposed fact of compression or condensation, as applicable to Ether, on which we could thus ground the formation of matter; and, further, that we not only want this, but, as may be urged, that many even doubt as to the very existence of an ether itself, thus preestablished. As to its existence, we think this will hardly be now-a-days seriously contested, at least by scientific minds. Without such a medium, it is impossible for us to account for the convection of light, or of heat, or of gravitation, and of many other results equally striking and important as facts in nature. And as to experience of Ether undergoing densification, and consequently, in regard to the grounds on which we would build such conclusions, that, we suspect, cannot, in the very nature of things, be very readily attained; but surely it is no small token of its likelihood and validity, if, by ascribing to it certain fundamental properties as its inherent or essential attributes, we do find that, under these, the whole foundation and function of natural law can be rationally based. Grove seems

to have no doubt that it is *the foundation of matter*, in that he speaks of it as "the vapour of chemical substances." Sir John Herschel says it is "an elastic medium conceived to be of extreme elasticity and tenuity, filling all space."* "It is imagined (he adds) to penetrate all bodies; and in their interior to exist in *a different state of density and elasticity* from those which belong to it in a disengaged state." Dr Boase says, "It may seem difficult to apprehend that the highly elastic fluid Ether is a material substance; but since solids may be so attenuated as to become inappreciable vapours, it does not require a great stretch of the imagination to conceive that Ether may be gaseous matter, and that such a fluid, when in the vicinity of masses, will be coerced thereby, and suffer a corresponding condensation, just as the atmospheres of celestial bodies do." Supposing then, what we call the Universe of Space to have primordially consisted of Ether, as an indefinite sphere of "this highly elastic fluid," what would have been the conditions of this existence *per se*? Could we, with all its imagined potentiality or "indefinite elasticity," suppose, at the same time, the operation of any currents of force, if it subsisted absolutely *per se*? Assuredly not; because it would have to be regarded as homogenious throughout, and otherwise without variety in condition, and hence without impulse. Again, could it be without these currents, if we posit, as we must, at the same time, an All-conditioned subsisting in the living framework of his own personality? This we cannot escape; it must be regarded as the

* Almost all our scientific men speak of Ether as "an *elastic* medium," as "infinitely *elastic*," and so on; but what is meant by the word "elastic?" It is applied to something that is springy or resilient, to something that will bear compression or distension, and then, when the power of compression or of distension is removed, that it will rebound or spring back to its former normal condition of quiescence. Whether the word "elastic," therefore, duly defines the potential character of Ether may be a question. Elastic is properly a quality directly pertaining to matter. It indicates the modification applicable to the attractivity of the molecules of substance under counteraction, with an inherent tenacity for returning to its normal state so soon as the force of counteraction is removed. This term "elastic," therefore, is but a manifestation of the measure of attraction as a power. Whence comes this power? It is, after all, but the expression of an inherent potentiality, which has its validity asserted as force, so soon as any condition is established which is, and must be, the measure of the force that is manifested.

recipient of such current of action if there existing. Can we find out what would be the result of introducing a current of action in pure Ether? We find this, that a current of Electricity, introduced into an exhausted receiver, produces white light, and the stronger the current the more vivid the light. Can it be that in this experiment we have some sort of exemplification of the very first work of Creation? What the result might be, were the current continued for a considerable length of time, we have no means of knowing; but supposing, with Sir David Brewster, that light, by analysis, yielded only three primary colours, what prevents us from supposing that the foundations of these might be reduceable to something approaching to physical consistency? True it is, that we have no actual exemplification of this by any actual manipulation in the laboratory, and therefore to found any theory on this would be at best but a weak basis for any solid structure of truth. All we can say is that, supposing all physicism to have its foundation in Ether, consequently supposing all matter to have its development therefrom, according to some law of intensification, whereby, unknown to us, variety in quality might be produced, it would not be difficult to apprehend how the law of Affinity becomes operative, and, consequently, to discern the grounds on which the physical forces can be regarded as having their springs of action. Ether seems to be utterly without gravitation *per se*; if, however, we can imagine that *density* may be acquired therefrom, we can understand that *mass* is acquired, consequently in a sense that *weight* is acquired, consequently that affinity is acquired in the cohesion of the parts of that which constitutes *volume*. Though we cannot, from our ignorance of what forms the foundations of Ether, easily imagine how variations in material quality, such as acids and alkalis, may have been constituted, we may more readily conceive that, in the construction of density, a certain minimum magnitude or quantity known as *atomic* should be laid at the foundation. Granting, then, that the atoms of each separate and respective quality, in regard to the primary elements of substance, had been duly determined by an all-perfect Intelligence, we can thus understand the establishment of a precise and definite rule for the combination of atoms, as well as a definite law for the manifestation of force in the display of an ever-varying affinity.

And here let us note, as regards the force of *Cohesion*, that as a rule, whatever may happen to be the normal attraction which belongs to the molecules or particles of the mass, we find that the energy with which the particles adhere to one another is modified according to the temperature to which the mass may be subjected. Heat may be termed an elevation of temperature, and cold, as its opposite, may be termed a depression of temperature, each marking but the degrees of temperature according to the direction we take. Temperature is itself but a graduated scale, having two opposite poles, the one pole being that of extreme heat, and the other that of extreme cold. All matter hath its own normal temperature assigned to it: hence the application of heat, which, in other words, is an elevation of the temperature, constitutes a force of repulsion, while the abstraction of heat, *i.e.*, a depression of temperature, increases the density, and therefore attraction, of the particles. This, however, only applies to *sensible* heat. What then shall we say of Temperature? Shall we say that it is a generic name for that condition which marks the kind of consistency which belongs to an atom; or, that it marks the density which characterises it? We shall have occasion to refer to the subject of heat immediately; what we say here is that, while heat (whatever this term may fundamentally mean) is the element whereby physical condition seems to be graduated, whether as solid, as liquid, or as aeriform; and while the cohesion of particles is normally different in different bodies, and also in each of these different states, Cohesion, as such, is regarded as the force which binds together into one mass *the same kind* of particles. It is this force which retains the particles of a bar of iron, a block of wood, or a lump of ice in a single piece. It is by the cohesive force of the particles that we measure the strength of materials. According to the character of the cohesions of solids, we have hardness and brittleness, elasticity and ductility. In liquids, again, the cohesion is less appreciable. We see it in the drops of dew, as well as in the drops of rain; we see it in the case of some drops of oil, which become perfectly spherical when suspended in spirits of wine. We behold examples of various characters of cohesion in liquids, as being what is called viscous. Cohesion is weakest of all in gases; and analogy leads to the conclusion that cohesion would be destroyed in

every elementary body by a sufficient elevation of its temperature. "If the repulsion excited by heat could be carried sufficiently far, every known substance not actually decomposable by heat, we have reason to believe, might appear as a gas; and, by a reduction of temperature sufficient to allow temperature to exert its sway, every known gaseous substance would probably exist in a solid state." (Miller, p. 56.) Hence, that which we call heat has (so far as appears) indefinite power, according as it is given or withheld, to produce rarification or densification. If, then, the foundation of all material things is originally a spirituous element, an indefinitely puissant, and extremely or intensely refined fluid, and the solids and liquids and gases which we see around us as belonging to the selfsame relative foundation, are but regulated condensations from the primal fountain, by the interposition of a Primal Power, operating as an Intelligent Agent, we can obtain, possibly, a glimpse of the physical connexion of what may be called the chemical relations of the different fundamental atoms of matter.

And now a word about *Electricity*, and its cognate force, *Magnetism*. Granting that we have that conglomeration of atoms which constitutes a Molecule, as being the smallest particle of that which constitutes the character of the mass, and that the atoms cohere to form molecules, under a peculiar *axial* arrangement, that is, under a symmetrical *polarity* to one another, and that said symmetrical polarity is susceptible of being disturbed without being destroyed, this disturbance would, as we believe, constitute an exemplification of electricity.* And here let us just

* The view yet received of electricity by many of our most distinguished *savans* has been briefly explained, by supposing that there exists :—

1. A very subtle elastic fluid diffused through all nature,
2. Having no weight nor inertia :
3. Being self-repellent, like compressed air or gas ;
4. But strongly attractive of other things,
5. Which, in its usual tranquil state of diffusion and equilibrium, is unperceived by any of the human senses, but, when disturbed, can affect them all.
6. Its equilibrium is disturbed by various means, as by friction between two bodies of different kinds. This occasions a redundancy in one, and a deficiency in the other, the one seeming to gain what the other loses. The first is said to be positively electrified, the other negatively.
7. Electricity, acting to regain its equilibrium, passes readily through

note what would seem to be the line of distinction betwixt positive and negative electricity. They are but the correlative poles of the same operation. Faraday speaks of the "axis of power having contrary forces, exactly equal in amount, in contrary directions." What is this, if it be not the line or attitude of molecular direction, so that, if at one pole of the molecule there be a force of *attraction*, there must needs be, at the opposite pole of the same molecule, a precisely corresponding force of *repulsion*; both taken together being, in fact, but one and the same character of force, the distinction being that it is a force in the contrary direction, the same axis *repelling* from it, in one case, and, in the other, *drawing* towards it. Then, again, as regards Magnetism, seeing that a current of electricity does, for the time, thereby constitute the magnetic force, we explain this by simply pointing out, that *the polaric attitude of the molecules*, whereby they naturally stand to one another, and cohere with one another, being disturbed or deranged, the affinity which they ordinarily possess, being thus overcome,

some substances, as the metals, the earth, water, &c., which are therefore called conductors, and it is impeded or arrested by other substances, as by glass, silk, air, &c., which are therefore called non-conductors.

8. While regaining lost equilibrium, it occasions apparent attractions and repulsions among the ponderable bodies in which it is lodged. Bodies similarly electrified, whether positively or negatively, repel each other. Bodies dissimilarly electrified attract.

9. Electricity can force its way through a moderate thickness of non-conducting substances, as air, glass, &c., appearing then as a vivid spark, and causing a sharp snap or noise.

10. A body surrounded, and therefore supported, by non-conducting substances, is said to be insulated, and may long retain an electrified condition.

11. A much greater charge of electricity can be accumulated on one side of a non-conducting substance, as a pane of glass, or the interior of a Leyden phial, than if diffused over a larger mass of a conducting substance.

12. When elasticity is produced by the mere contact of different substances, peculiarly arranged, as in the Voltaic pile or battery, it is said to form currents; these manifest remarkable powers, as in chemical decompositions, the electric telegraph, &c. (Elements of Physics, by Neil Arnot, M.D., F.R.S., Part II, p. 605.)

We will take the liberty of making a brief remark or two on the theory thus proclaimed:—

1, 2. It is granted that there is "a very subtle and elastic fluid diffused through all nature, having no weight and no inertia," viz., Ether.

through the force of the disturbance, said affinity, as the force of attraction, becomes manifested *laterally* or *transversely;* and what is commonly called a magnet must therefore be regarded as this condition of abnormal polarity reduced to a static or fixed continuity of attitude.

It does not seem very difficult, then, in connexion with these considerations, to distinguish betwixt the motion which characterises the force called electricity, and the motion which characterises the force called heat. Electricity must be always regarded as a *polar* motion, while heat is a repellant motion. As to the former, it seems that, in point of fact, the *axial* derangement, caused by the current, *occasions a shortening* of the wire through which it passes, and a corresponding tendency to

3. That this subtle fluid is "self-repellent, like compressed air," strongly admits of question. If self-repellent, quære, What confines it from having unbounded self-destruction? Again, if "self-repellent," how comes it into a "tranquil state of diffusion and equilibrium?"

4. If this fluid is "strongly attractive of other things," how comes it about that, if "diffused through all nature," it does not operate, as thus the *causa efficiens*, apart from a prior change in material states? Is not the converse true, that it simply represents material states, and is therefore itself affected by material states, and, consequently, is manifested in fulfilling the change in material states?

5. Is this "very subtle elastic fluid" perceived by the human senses whether disturbed or not disturbed? Is it this element *per se* that (9) "appears as a vivid spark, and causes a sharp snap or noise?" Is it not rather the matter that is acted upon? When the eye is affected by this medium, as conveying the sight of external objects, does it see the fluid, or is it sensible of being affected by it?

6. It is allowed that "its equilibrium is disturbed by various means," if that be the proper expression; but, in that case, it is not so much the primary agent, "attractive of other things," as it is fundamentally the secondary agent, fulfilling the conditions impressed on substance. Nor can we admit the dogma of a redundancy or deficiency of this fluid, nor, indeed, of a positive or negative electricity, the so called vitreous and resinous electricity obviously marking different, or rather opposite or contrary, polaric states of the glass and of the wax.

7. If the fluid spoken of is "diffused through all nature," it must, in a sense, be regarded as *common* to all nature; hence we must, of necessity, suppose, that there can be no substance either impeding it, or causing it to flow. Indeed, how could it be either arrested in itself, or made to meander in itself? But if we once lay down the doctrine of affinity in regard to different substances, then we have the key to the doctrine of operation and of non-operation in Ether as representing their states.

thickness; as to the latter, however, the influence communicated from particle to particle has the effect of expanding them, and so of *elongating* the wire or bar to which the heat is applied. Polaric action exhibits a different complexion from that which prevails in the operation of heat. In the former case, the molecules retain their normal condition, and their consistency, and their size, while their affinity remains unchanged; in the latter case, the molecules change their condition, and therewith their affinity, and they become expanded in volume. Hence, the application of heat has a tendency to destroy the polaric character of the molecule, and, consequently, to destroy the power of electric conduction, and of magnetic force. Heat,

8. It is not the fluid which "occasions attractions and repulsions among the ponderable bodies in which it is lodged;" for the foundation of all attraction and repulsion lies in the relationship of the conditions of matter; and Ether is the universal servitor whereby these attractions and repulsions have their validity carried out.

9. When it is said that "electricity can force its way," &c., and by the term that a "fluid" is meant, a mistaken idea is indicated, in as far as Ether, the only fluid known, must be regarded as fundamentally the same to all substances, whether they be conducting or non-conducting, its action as a fluid being originated and determined by the condition of the substances.

10. The "retention of an electrified condition" seems incompatible with the asserted "self repellent" prerogative of the fluid in question, as "strongly attractive of other things," because it implies that the fluid is made a prisoner, in certain circumstances.

11. And when it is asserted that "a much greater charge of electricity can be accumulated," &c., it is positively declared that the fluid, instead of originating any law, *is forced* to be the law of the conditions of matter.

12. What are currents of electricity, therefore, but the conditions which are originated in the substance which betokens its existence? Electricity, like every other physical force, has its foundation in the conditions of matter, and its propagation is but the current of those conditions. The action which is produced in the Voltaic pile is simply fulfilled in the lamellar constitution of the substance subjected to such an impulse.

The conclusion of all this seems to be, that while we may not deny the existence of a universal fluid surrounding all matter in its minutest momenta, the fluid is, in the first place, absolutely dependent for its operation on the conditions of substance out of which the operation is initiated; and secondly, that the pressure of the fluid is no more known in electricity than in any of the other forces of nature, the current so called being altogether dependent on the affinity of the molecules, wherewith a substance happens to be built up.

it is observable, can be propagated through a vacuum; not so electricity, save in a very imperfect degree; the reason being, no doubt, that the Ether, which alone fills the vacuum, is sufficient to hold the property of heat, and to transmit it; but in as far as Electricity is emphatically a polar force, this characteristic as such comes to be lost when no molecular attitude exists.*

Let us now say something about *Chemical Affinity.* The foundation of Chemical Affinity lies, as we have stated, in the development of varieties of quality from one fundamental and absolutely generic quality. How that development may be effected, has been referred to in the conception of a various compression of Ether as a foundation of all matter, if Ether is to be regarded, not as the Unconditioned Absolute, but as a *positive* entity intensely rarefied. We have examples of densification in the case of gases in immediate contact with such bodies as spongy platinum, charcoal, &c., as exerting a corresponding pressure on the molecules of the gases; and it is thought that Ether must itself be subjected to a certain amount of compression or densification, like our own atmosphere, so far as it is in immediate contact with such bodies as the sun, or our earth, or any of the planets; and farther, it has been thought that the material of which Comets are composed, is but a condensation of Ether, and that the existence of a region of condensed Ether around the sun would account for some of the changes which comets undergo when in the vicinity of this luminary, while electricity from the body of the sun might well create the light and heat of that sphere. It has further been thought by some, if chemical elements are thus constituted, as but graduated compressions of unity, according to a determinate scale, that the lightest of the elements known, viz., Hydrogen, might be regarded as the atomic standard of unity, and that the other elements are but multiples of this unity. There can be no doubt that we have need of more knowledge on these points

* If these views are correct, what becomes of "the elastic fluid," so called? It thus seems to have no power of function except when employing matter as a medium! And if there be an actual current in "the electric fluid" affecting matter, should we not, in an analogous case, expect some motal influence, when a broad sunbeam with its intense light and heat is made to fall upon a most delicate balance?

before we can freely dogmatize; but the subject is sufficiently inviting to draw forth every possible investigation.

In Chemical Affinity we have a drawing together of dissimilar elements, and a union of them into one, as a new and homogeneous compound. It is observable that this force is not only a force of attraction, but it is also an electric force, in as far as a certain condition, amid other conditions, manifests a preference for one kind of substance rather than another. There is obviously a close analogy betwixt the operation of chemical affinity as an *attracting* force, and the operation of electricity as a *conducting* force. Both seem to have their foundation in the relationship which the qualities of the atoms or the molecules bear to one another. In electricity, we suppose the explanation to be, that while the mass (as in an iron wire) has ordinarily its own natural polarity of atoms, in which they normally stand to one another, no sooner is the condition of one set of them changed, by the action which takes place at the terminus, than the whole successive mass of them are correspondingly affected, and so the precise expression that is imparted at one terminus, is, in virtue of the affinity which prevails, conveyed throughout the whole, to the other terminus. In chemical affinity, again, properly so called, we have not only a drawing of like to like for the purpose of *mechanical* junction, to form molecules; but we have a drawing of like to unlike, for the purpose of *essential* union, as if the one were a vacuity for the transfusion into it of the other.

Logically, we should have first entered upon the subject of Chemical Affinity, in treating of the physical forces; and, in point of fact, we have so far done this. We here only return for a little to this question, ere we pass on to the consideration of gravitation, and of heat, and of light. And if we can admit the theory of the various and successive *condensation* * of Ether, as the one simple ground out of which matter, in its indefinite variety, has been constituted, and, moreover, admit that the ground, in itself, is essentially and intrinsically

* Examples of condensation among the various elements of matter can be sufficiently multiplied. "Solid carbonic acid is itself procured from the gas liquified by pressure; which liquid, when allowed to escape into air, evaporates so rapidly that a large quantity of it is congealed by being robbed of its combined heat by the vaporising portion. When this solid

potential in its nature, then have we a clear insight as to the foundations of chemical affinity. For it cannot be supposed that different states of the selfsame ingredient should be unaffected by a contact or conjunction with each other. Thus, then, under this hypothesis of densification, have we a *qualitative* basis established with variety of condition, and framed into a *quantitative* basis, susceptible of a variety of form. In this case, each successive element thus constituted would have its own specific power; and therefore their specific forces would necessarily manifest themselves by their affinity, under the combinations which come to be effected through the junction of elements.

We come to *Gravitation*. Gravitation implies weight. We speak of it as that power by which all the planets are drawn to the Sun, as the centre of the solar system. But if we had no counteracting and counterpoising force prevailing, our difficulty would be to understand why they so carefully preserve their respective distances without impinging with fearful crash against that body, and against one another. Why is that centrifugal force which operates to maintain a determinate circle of movement in the heavenly bodies? Some have accounted for it as being the *tangential* impulse originally given to them by the Creator; and that the centrifugal attraction is just sufficient to deflect the course of the moving body. Others have supposed that the attraction of the planets upon one another operates to preserve a centrifugal influence in their movement. It would take us out of our way to enter upon a discussion of opinions

acid is united with ether (chemical), a bath is formed in which the carbonic acid will remain solid for twenty or thirty minutes. By a mixture of this fluid, placed under the receiver of an air-pump, a good exhaustion being sustained, a degree of cold 166° below zero is secured. By this intense cold, many of the bodies which have hitherto been known to us only in the gaseous state, have been condensed into liquids and solids. Olefiant gas, a compound of Hydrogen and Carbon, has thus been brought into a liquid form. Hydriodic and Hydrobromic acids could be condensed into either a liquid or solid form. Phosphoretted hydrogen, a gas which inflames spontaneously when brought into contact with the air, or with oxygen, becomes a transparent liquid, at this great reduction of temperature. Sulphurous acid may be condensed by pressure and a reduction of temperature, into a liquid which boils at 14° Fahrenheit, but, by the carbonic acid bath, it is converted into a solid body, transparent, and

on this subject; and we can but state the conclusion usually received, that, as gravity is found directly proportional to the mass of the gravitating bodies, so every particle of matter in the universe attracts every other particle with a force which is directly proportionate to the mass of the attracting particles, and inversely proportionate to the square of the distance, and that this attractive principle is the sole force which is concerned in maintaining the movements of the Heavenly Bodies.

The fact of gravitation is unquestionable: How do we account for the fact, seeing the bodies which influence one another are placed at enormous distances from each other? What is the *link* whereby the influence of one body is brought to bear upon the other? It is impossible for us to suppose the convection of an influence of this sort, without some medium as the bearer of it, otherwise we are reduced to the dilemma of supposing the existence of a force without any go-between as the mediating element in the conveyance of that force. There is no help but to suppose that space is filled with an imponderable Ether, whose potential properties are adequate to fulfil this end. It is the recipient of the influence of attraction, bearing and conveying that influence with a strength which becomes weakened as the square of the distance is increased; and in as far as the opposite influences thus meet therein, and operate according to their respective amounts of energy, the great field of Ether in this way takes its part as the *connecting* medium of the planets, in respect of gravitation. It is thus

without colour. Sulphuretted Hydrogen gas solidifies at minus 122°, and in that case forms a white substance resembling a mass of crystals and sea salt. A combination of the two gases, chlorine and oxygen, becomes solid at minus 75°, and the protoxide of nitrogen at minus 150°. Cyanogen, a compound of carbon and nitrogen, the base of prussic acid, is solidified at 30° below the zero of our theometric scale. The well-known pungent compound, ammonia, so exceedingly volatile at common temperature, is converted into a crystalline, translucent, white substance, at the temperature of minus 103°. The difficulties which necessarily attend the exposure of a body to extreme cold and great pressure at the same time appear to be the only obstacle to the condensation of oxygen, hydrogen, and nitrogen gases. A sufficient amount of condensation was, however, effected by Faraday, to lead him to the conclusion arrived at also by other evidences, that hydrogen, the lightest of the ponderable bodies, partakes of the nature of a metal." (Hunt's Poetry of Science, pp. 90, 91).

perfectly conceivable on what grounds the heavenly bodies do influence each other in the matter of gravitation; showing that gravitation is neither more nor less than an example of that affinity which exists betwixt the particles of matter, when they attract each other, and cleave to each other, in more immediate contact or combination with one another. This Ether, in one of its phases, may be regarded as that substitutionary power which makes up for the want of immediate contact in bodies, and which fulfils the conditions of contact.

We come to *Heat:* What is it? We can speak of its effects; it is not easy to say what it is in itself. It has been asked, whether it be an entity in itself, penetrating all matter, more or less, and in different degrees of amount in the same matter, under different circumstances? or whether it be merely a characteristic of matter, as indicating the different possible states of matter, from the solid to the gaseous, and its final dissolution, by combustion? What do we understand by a characteristic of matter? We understand something intrinsic in its temperament, something that is essential to its spirit or humour, according to the conditions which may happen to belong to it, something that is the speciality or peculiarity of certain conditions. For example, we say sound is a characteristic of matter, and odour, and flavour, and palpability, and colour; so also heat, as indicating some degree of temperature, or shall we rather say consistency in substance. And here the question is forced on us—Can characteristics be brought out if they have not at least a *latent* foundation in the substance out of which matter is formed? For example, if we can believe matter to be formed from Ether, then sound is assuredly latent in Ether, *i.e.*, it has no manifestation therein, and so all the other characteristics which we have mentioned; and it would seem that these characteristics are only brought forth under what are properly termed material states. Sir David Brewster, when endeavouring to explain "the persistent activity" of light, remarks that "Ether itself may be a compound body, consisting of, or containing, all the elements of matter;" if so, then it is obvious these elements are all of them *latent* in that mother-soil of existence. But it may well be said all the phenomena of matter is latent in Ether, if it constitutes the quarry from which matter is derived; the point, then, to settle, is—Taking

matter as such, is there, can there be, such a thing as *latent* sound? In the first place, it is answered that sound is not necessarily a phenomenon of matter *per se*, but only of matter when impinging on matter; and, in the second place, that even then, the utterance of sound is dependent on the particular condition of matter, in as far as the due development of sound depends on the solidity of matter. Sound, then, is capable of being manifested as a characteristic of matter in certain conditions, and must be regarded as *latent* in the absence of the conditions. To destroy the development of sound, we have not always to change the conditions from solid to liquid, or from liquid to gaseous, but only to remove the tension which is sometimes found to be needful, as, for example, on the strings of the harp or violin. Can it be said, however, that here we have an analogy to the case of what is called *latent* heat? Latent heat is said to be known by the fact of so much heat being withdrawn or absorbed, as the case may be, while yet the temperature remains unchanged. If *temperature* be designated as the sensible condition of heat, can it correspondingly be said that *tension* is the sensible condition of sound? It is obvious enough that if there be any proper analogy betwixt these two characteristics, that as sound is not a separate entity apart from the matter which is characterised by this attribute, so, in like manner, heat cannot be regarded as an entity *per se*. We might lay hold of the characteristic of light as, perhaps, a better analogy by which to test this question of heat. It might be said, perhaps, that all matter contains more or less of *latent* light, in as far as it may be said that there is no substance as matter, whether solid or gaseous, but will become luminous at a certain high temperature. Light, then, is *latent* in all bodies, and is manifested in certain conditions only, that is, when the bodies are undergoing combustion. But we may be told that light is ascertained to be a compound made up of certain colours in due combination, and therefore, that all matter more or less does display, in that it absorbs some one or more of the colours of light, some characteristic or another of light; and that while some of them may be regarded as more or less hidden or latent in matter, that others of them are always more or less manifested, in that certain conditions of matter more readily absorb one colour than another. Still, the question comes to be, Is colour, as

such, to be regarded as a sort of distinctive entity? Is it not rather one attribute of entity possessing other and more recondite qualities, out of which the other phenomena of matter have their manifestation? If this be so, then it is difficult to entertain the idea of heat as a separate and distinctive entity. And this view we the rather entertain, because there does not appear any certainty that the rays of heat, as such, are absolutely refrangable from the rays of light; or rather that, while heat may be dissipated from light, as is shown by the reflected light of the moon, yet there is no proof that heat can be exhibited apart *per se*. "We know hot iron, or hot water, or hot air (says Dr Arnot), but nature nowhere presents to us, nor has art succeeded in exhibiting to us, heat alone."* We feel constrained, then, to regard it, like other characteristics, as an attribute of matter more or less perceptible, according to circumstances. But there is this peculiarity about it, that while it is a characteristic of all matter, and is measurable, with reference to its intensity, it is that characteristic which fundamentally modifies the conditions of matter. What, then, is Heat? We can only describe a thing by its properties. But if it be itself only a property of matter, then we are called on to say what is the property of a property! We may say it is a property which tends to equable diffusion; which spreads by conduction, and by convection or radiation, but in some substances more readily than in others; which may be measured in respect of intensity; which increases the tenuity and expansion of substances according to its intensity; which affects the condition of substances, and therefore the affinity of substances, as attracting one another or repelling one another; which may be locked up as latent or insensible to observation in certain conditions, and released or let loose by certain manipulation, such as friction, percussion, or chemical action; but which, when so released, is transferred by radiation

* Dr Miller, in his Elements of Chemistry, points out what he calls "the probable independence of Light and Heat" by describing the separation of heat from light in the experiments of M. Melloni; but, after all, may not latent heat remain in these rays? He admits that Melloni himself found feeble indications of heat in the concentrated rays of the moon, while this philosopher, "in opposition to his experiments, and to his earlier opinions, maintained, during the latter years of his life, the identity of the agent that produces light and heat."

or absorption. Heat, then, is some attribute of substance which must lie at the foundation in the construction or constitution of all matter, and may form the test by virtue of which all the conditions of matter are proved, just as, for aught we know, it may have formed the handle by virtue of which all the qualities of matter were instituted.

Let us finally make a remark or two on Light. We might consider, at the same time, the characteristics of some of the other forces, such as sound and smell. Light and sound have not unfrequently been compared. It might seem strange to place these two phenomena together, seeing they are so essentially different in themselves, and are, indeed, developed in different media, the former being manifested only through the medium of air to our sense of hearing, and the latter through the medium of Ether to our sense of seeing. Both, however, have ordinarily the fountain of their manifestation in those particular conditions of material substance which gives them birth. What, then, is Sound? and what is Light? It would not be a full or complete definition of Sound to say that it is a vibration of material particles, because we have the vibration of material particles in many ways, as in heat, in electricity, in chemical affinity, and in other molecular disturbances. Sound, therefore, is not mere molecular vibration, even as heat is not mere molecular repulsion. It is true there can be no sound without molecular vibration; but molecular vibration may be accompanied with a variety of characteristics. Heat is one characteristic, and light is another characteristic, and sound is another characteristic, and each characteristic may be attended with a movement of the particles somewhat peculiar to itself; still there is, without doubt, that which we call a characteristic, as a condition of matter, apart from the mere atomic flicker which may happen to be peculiar to each. It is, no doubt, difficult to describe these: first, because our tendency is to describe simply our own sensations, as aroused by the application of them; and, second, because it is sometimes difficult to say what the characteristic is, considered apart from the phenomenon. In heat, not only are the particles of matter expanded, and so become repellent of one another, but, when applied to our bodies, it occasions the thrilling sensation in us which we call warmth or glow. Sound, again, is that charac-

teristic under which the particles of matter, when vibrating, emit an articulation, significant, not merely of vibration, but of the peculiar quality of the vibrating substance. Some substances refuse to utter sounds, possibly on a similar principle that some refuse to take on heat very readily. The fact that sound does not follow an impact made in an exhausted receiver, from which the atmospheric air has been removed, but wherein, of course, Ether prevails, would seem to place Ether directly out of the category of matter as such; for here, at least, is one of the unquestionable properties of matter, which Ether declines to take on and to display. Sound, as the utterance of material particles in vibration, demands the presence of material particles to be the medium of its propagation. It must be owing to its extreme tenuity, that Ether, while the medium of light and heat, refuses to be the medium of Sound. Sound is a characteristic which depends on density for its origination and propagation. While it travels through air at the rate of 1130 feet per second, it travels through water, in the same time, at the rate of 4900 feet, and, in the same time, along a deal rod at the rate of 17,400 feet; and it varies in air, so far in the degree of speed, but particularly in the degree of loudness, according to the density of the air at the time. Electricity seems no less, or little less dependent for a material medium for its manifestation than sound, but it marks a mode of motion peculiar to itself. It may be described as a *polar* movement of the particles *in loco*—a movement not like sound as a mere vibratory disturbance, but one which indicates a change in the chemical attitude of the particles to one another, and, consequently, introducing a new transverse attitude, inducing what is called magnetism as a tangential attraction to external substance. That this force, like sound, is essentially a characteristic of material states, seems to be proved by the fact of charge and of discharge, of tension and of conduction, in material media only; for even a strong voltaic current can be discharged but a comparatively small way across the medium from which the air has been extracted.

But while Ether is incompetent to fulfil that which demands the actual presence of material molecules to fulfil, it seems by no means unfitted to be the medium of certain other characteristics which are begotten or generated in material

states, and so it becomes the link of conveying these other characteristics from one material condition to another that may happen to be separated by distance. This intermedium of Ether, and its services in this respect, are seen not merely in the operation of Gravity, wherein a large body is seen to attract a smaller to it, as in the case of the Sun attracting the planets which surround it, or in the case of the earth attracting to it the material that is thereon, and so constituting weight; but also in the fact that, without question, it is the medium of conveying light and heat from one body so conditioned to another. What, then, is Light? There is what is called the Corpuscular theory, which implies that excessively minute particles of matter are projected with immense velocity, and acted on by attraction or repulsion in the bodies on which they impinge, and which reflect or refract or absorb them; and there is the Undulatory theory, which asserts that light, like sound, consists in undulations or pulsations, "propagated through a medium of extreme tenuity and elasticity." The former theory, as is well known, was given forth by Sir Isaac Newton. Though not now so generally received, it is not impossible that further researches may find a certain amount of truth in it, and that it may assimilate itself so far to the Undulatory theory. While we think, for several reasons, that sun-light, for example, is very likely to be produced by the disturbance which the magnetic impulse of that body occasions in the atmosphere which surrounds it, and that hence it extends with great rapidity, according to the pulsating form in which it is begotten; still, the question arises—What is Light? and how comes light to be produced and transmitted in the bosom of Ether? We know, as a fact, by experiment, that light can be so produced; but, then, what is Light? To say that it is Luminosity, is to tell us that light is light. One thing is obvious, that, in the natural condition of Ether, light exists in a *latent* state; for it is only by electrical disturbance that it is brought into manifestation. Another thing, also, is made clear to us, that light is a compound element, being a mixture of so many different colours, which, after being separated by means of a prism, may be recombined by another prism, and reproduce the white light, as at the first. What follows from this analysis? Why, surely, that Ether itself, in which light is thus produced, as simply but a new con-

dition of itself, without the accession or diminution, in either state, of one element essentially belonging to it, contains within its own bosom so many composite elements, not one of which is perceptible in the composite state, but all of which are as if they did not exist. We proceed a step farther; and we find that these elements have much to do with the constitution of matter. Some substances, for example, are transparent, and allow the light freely, or nearly so, to pass through them; others are opaque; and some of these reflect or refract the light, and some of them absorb it. Charcoal, for example, absorbs all the light which falls upon it, and hence, it is thought, lies a reason why, in some of its states, as in the diamond, it is highly transparent. That natural colours are the outcome from white light, is conclusively shewn, by placing coloured bodies in monochromatic light of another kind, when they will appear either of the colour of the light, or, by absorbing it, become black; whereas, when placed in light of its own character, the intensity of colour is greatly increased.* Hence, in tropical climates, the colours of plants and animals are of a deeper hue than in more temperate regions. Light is essentially necessary to vegetable life. To this element is ascribed the powers which the plant has of separating carbon (from the atmosphere ?) as breathed by the leaves, and of secreting it within its tissues, for the purpose of adding to its woody structure. In light there is an exhalation of oxygen, and a fixation of carbon by the plant; in darkness, the plant, on the contrary, absorbs oxygen, and emits carbonic acid, and it is admitted that these effects are produced independently of life. What follows from this ? Why, we have set before us a strong chemical principle as at work through the action of light, whose energy cannot be surpassed by any ordinary chemical affinities. Are we not compelled, in these cir-

* "If we take the clot formed in blood left to itself (the serum having been filtered through paper) and treat it with oxygen, we observe that it acquires a vermilion colour." (Matteucci on Physical Phenomena, p. 139). Can there be a doubt that the reason why arterial blood is red and venous blood is black, lies in the fact that the former is charged with oxygen, while the latter is charged with carbonic acid ? Is it not the case, that while a stream of electricity emitted into an exhausted receiver produces a white light, the same, emitted into the medium of oxygen, produces a deep yellow light, thus indicating colour as an integral attribute of primary substance ?

cumstances, to believe that what constitutes the foundation of light constitutes, at the same time, the foundation of matter? Are we not forced to the conclusion that colour is but one of the attributes of that which radically forms the fountain of matter? Still farther: when we look at the matter deductively, and contemplate the fact of living beings in different states giving out phosphorescence, as an indication either of an expenditure of their economy, or of some operative agency at work in their economy, as a living structure, are we not confirmed in this view? We might refer to such experiments as those of Baron Reichenbach, who found luminous phenomena at the poles and sides of strong magnets, as also at the poles of crystals, which have what he calls the "crystallic force," as distinguished from the magnetic force; and, we may add, likewise "from the points of fingers of healthy men." In short, he found that "all fluid and solid,—all bodies of any density generally,—give out emanations of light;" and he expresses the opinion strongly, that it is "the same thing which, on a large scale, constitutes the Northern Lights, and polar light generally." The phosphorescence of animals is an indisputable fact. The glow-worm has her lamp, and the luminous animalcules of the ocean light up depths where the Sun's rays cannot penetrate, and so give light to its inhabitants. Several varieties of flies, and some species of beetles, have the power of emitting luminous rays. In dead animal matter, and in vegetable matter, too, are observed curious instances of incandescence. Fishes of particular kinds, and decayed wood, emit light under certain conditions of the atmosphere. To what can all this be owing? It has been said that "this is owing to the absorption by, and fixation within, the corpuscular structure of these bodies, of light itself, and that it is developed by the decomposition of the particles, under the influence of our oxygenous atmosphere." (Hunt's Science, p. 127).* But must we not go deeper than this? Such a view as is here expressed regards light as a fundamentally insulated thing, whereas, from what transpires, we are compelled to be-

* Professor Matteucci made a number of experiments on the glow-worm, and concludes as follows:—"From all we have now stated, we can no longer regard the presence of phosphorus as the cause of the light in these insects; and, from all these experiments, I conclude that carbonic acid is produced by the contact with oxygen of the phosphorescent matter alone,

lieve that, radically, the colours of which it is composed are utterly inseparable from the other attributes of which matter is formed. The shrewd George Stephenson said that the light of our gas and coal fires is a re-manifestation of the sun-light of remote ages, which had been absorbed and fixed by primeval vegetation: is there not a still more consistent view, that the very essence of which these materials are composed, contain, as their inseparable ingredient, that which, under the attribute of heat, presents the phenomenon of luminosity, as being the phenomenon of a union or blending of the integral elements of which the material is radically composed; and this in circumstances under which, by the action of combustion, they can freely amalgamate? Such a view explains why all material substances must become more or less luminous under combustion, because, under this view, luminosity, that is the science of colours, forms an inseparable quality in the very attributes of substance.

There would seem, however, to be a distinction observable with respect to the prismatic colours, which would go considerably to modify the view here implied. We condense from Mr Hunt's chapter on Actinism the remarks which that author makes on the distinction between the rays of light and what he calls the "Actinic rays"—"In bending the ray of white light, we learn that heat is less refracted by the prism than the other powers. We find the maximum point of the calorific rays but slightly thrown out of the right line, and the thermic action is found to diminish with much regularity on either side of this line. We discover that the luminous power is subject to greater refraction, and that its maximum is considerably above that of heat; and that, in like manner, on each side, the light diminishes, producing orange, red, and crimson below the maximum point, and green, blue, and violet above it. Again, we find that the *radiations which produce chemical change* are more

separated from the rest of the animal; that the light ceases to be produced when the gas is not present, and that, by the contact of the latter, light and a volume of carbonic acid, equal to that of the oxygen consumed, are produced; and that the phosphorescent substance of this insect, when not luminous, does not act on oxygen." (Lectures on Physical Phenomena, p. 182). The phosphorescent matter he regards as "*sui generis* principally composed of carbon, hydrogen, oxygen, and azote.

refrangible than either of the others, and the maximum of this power is found at the point where light rapidly diminishes, and where scarcely any heat can be detected; it extends in full activity above its maximum to a considerable distance, where no trace of light can be discerned, and below that point, until light appearing to act as an interfering agent, quenches its peculiar properties. These are strong evidences that light and actinism are not identical. Though associated in the solar beam, light and actinism are in constant antagonism"

We can readily enough imagine the divergence of heat from some of the prismatic rays, and its special preference for others.* This would but confirm the principle of conduction, as variably manifested in the different qualities of matter, and indeed account for it as a radical principle belonging to the fundamental elements of substance; but we cannot help suspending our judgment as to this alleged separation of an "actinic" element from the rays of light. At all events we think there must be much more unambiguous testimony to the fact of an actinic, *i.e.*, a qualitative substance in the sun's beams as essentially separate, or absolutely separable, from the luminous rays. That there may be other elements in the solar light, or we should rather say in the Etherial medium lighted, than those displayed in the prismatic rays, is perhaps not to be questioned. "Sir John Herschel discovered a set of very dark rays beyond the red extremity of the spectrum, which can only be seen when the eye is defended from the glow of the other colours by a dark blue cobalt glass; and he also found that beyond the extreme violet there are visible rays of a lavender-grey colour, which may be seen by throwing the spectrum on paper moistened by a solution of carbonate of soda." (See Mrs. Somerville's Con-

* "The co-existence of light and heat in the sun's rays is a well-known fact; but it was Sir William Herschel who first pointed out their relative distribution in the solar spectrum. He found heat to predominate in the dark space a little beyond the red extremity, and from thence to decrease gradually towards the violet, beyond which its presence could not be detected. And since his time, it has been ascertained that the calorific spectrum exceeds the luminous in the ratio of 42 to 25; and that its maximum point is only slightly thrown out of the straight line which the solar pencil would take, had it not been interrupted by the prism." (The Philosophy of Nature, by Dr Boase, p. 120).

nexion of Physical Sciences, p. 181). While there may be elements in the prismatic analysis of solar light, which do not make distinct impressions on the optic nerve, as lying beyond the limits of the spectrum, so far as it is ordinarily visible, and while it is most true that colours alone do not comprise all our knowledge of the solar beam, yet we are slow to believe that there is an absolute separation betwixt said "actinic rays" and the colour, which is but a single attribute of these; and the fact we advocate seems to be in so many words declared in that these very "actinic rays" are spoken of as "rays of a lavender-grey colour."

If the actinic or qualitative element in the sun's rays, were something separate from the light as such, then it would follow (if the view that light is simply Ether in the condition of luminosity is correct) that actinism, as not being conditioned for operation by luminosity, would operate as freely and effectually in the darkness as in the light. But this is not the case, as Mr Hunt himself illustrates. "Chlorine and Hydrogen will not unite in darkness, nor will chlorine and carbonic oxide. A solution of the sulphate of iron in ordinary water may be preserved for a long time in the dark without undergoing any change; expose it to the sunshine, and a precipitation of oxide of iron is very rapidly produced. Precipitation is at all times and under all circumstances accelerated by the sun's rays." Surely we have a right to say that, if the actinic substance lies in the bosom of Ether, and if the luminosity does not of necessity involve a new affinity for its action, as a condition of its quality —if in short the "actin" (if we may so call it) is separable properly from the light, why should it not operate in the darkness as well as in the light? What answer can there be to this? We have only to quote largely from Mr Hunt's pages as to the chemical agency of light. After giving several examples of the actinic power of light, he says:—"We now know that it is impossible to expose any body, simple or compound, to the sun's rays without its being influenced by this chemical and molecular-disturbing power."

But it may be said that the chemical effects arising from the introduction of light, and which have been improperly ascribed to light *per se*, as if it were an entity by itself, and not merely the condition of an entity, and due only to the atmosphere as

illumined. That the atmosphere with its oxygen and nitrogen does unmistakeably affect vegetable and animal life, and especially when conditioned with light, will not be doubted; but while it is to be remembered that the actinic power of light is found to prevail equally as a chemical influence, on mere physical elements, when the atmosphere is removed, it does seem to be a question whether the very small portion of carbonic acid in the atmosphere (not a thousandth part) could at all answer the requirements of vegetable life.

What then would seem to follow from these facts? Why, surely this, that in the Ether there is embosomed the foundations of material quality. We have seen that it is the application of one quality to another, in some one or other of its conditions, that under affinity gives rise to the law of operation as such, and therefore to change of state; and whether actinic power shall be found, as Mr Hunt asserts, apart from the rays of light as such or not, one thing would seem to be brought into tolerable certainty, that we are permitted to look into the bosom of Ether for the secrets of nature, and, so far as we are able to extend our ken, we would seem to trace hereto the exhaustless fountain of all material elements.* "That actinism (says Mr Hunt) is one of the great powers of creation we have abundant proof. Nearly all the phenomena of

* That Ether is the primordial ground from which the primary constituents of matter are taken is made somewhat probable from the following considerations:—

First, from *analogy* we know that one single substance is not unfrequently the basis out of which a vast variety of matter is taken. Out of one substance, viz., *blood*, we have bone, muscle, nerve, fibre of all sorts, skin, membrane, tissue of all sorts, hair, nails, teeth, &c. The same thing might be said of Albumen. We see variety brought out of unity as so many deductive facts. Practically too, we can advance to some extent in locking up variety, the simples being lost in the compound.

Second, from the *balance* by which the material economy is sustained. There is a flux and reflux constantly taking place betwixt the substance of one department and another; the inorganic, *e.g.*, giving out for the maintenance of the organic, and the organic returning its material to the inorganic; the earth, as a bountiful mother, yielding from its bosom to vegetation, and vegetation again to animal life; both paying back of that which had been borrowed. The sea, in like manner, as constituting clouds, is indemnified by the rain and the streams. The atmosphere correspondingly loses its properties by the aeration necessary for vegetation

change which have been referred to light, are now proved to be dependent upon actinic power. The influence of the solar beams on vegetation is proved by common experience; and certain it is that organisation can take place only where the sun's rays can penetrate. Where there is unchanging darkness, there we find all the silence of death." . . . "This hypothesis of actinic influence being diffused through all nature, as being indeed the element to which chemical force in all its forms is to be referred, receives some support from the very peculiar manner in which chemical action, once set up, is carried on independent of all extraneous excitement. If any of the salts of gold are exposed in connexion with organic matter, as on paper, to sunshine for a moment, an action is begun which goes on unceasingly *in the dark*, until the gold is reduced to its most simple state. The same thing occurs with chromate of silver and other chemical combinations." . . . "From the investigations of Moser and others we learn that even inanimate masses act and react upon each other by the influence of some *dark* radiations, and seem to exchange some of the pecularities

and for animal life, and must speedily have its character destroyed were there no return of its constituents by the combustion of vegetable and animal matter.

Here, however, is the question. In what way is the proper balance of a normal standard of the atmosphere preserved? What becomes of the redundancy of materials which are constantly being disengaged from their embrace in the bowels of the earth, and which are conveyed into the atmosphere, and of which there is no restoration to the world of matter? What about the enormous quantities of Oxygen and Carbon, &c., which are daily discharged by the combustion of fuel and other ingredients as a consumpt of the materials of the earth, and which do not return to the earth? What becomes of this redundancy? The atmosphere, like the blood in the healthy animal, must have some means of maintaining its purity, some means of casting off all excrementitious excesses wherewith it is being constantly loaded. What medium receives this excess and carries it away? What conclusion can we come to but this, that all excess beyond the normal requirements of the atmosphere is absorbed by that capacious bosom, out of which substance primitively comes? Is this bosom Ether? As in the matter of the earth there is a constant flux and reflux betwixt one department and another, such, that each throws back to the earth any excess or overplus not required, so it is not irrational to suppose that there must be an independent mother-substance absorbing all excess in the atmosphere on the one hand, and yielding all supply on the other hand, where the atmosphere is normally deficient.

which they possess. Thus an engraved plate will give to a polished surface of metal or glass placed near it, after a little time, a neat distinct image of itself. If a piece of wood is used instead of a medal, there will, by similar treatment, be produced a true picture of the wood, even to the representation of its fibres." What is this but the magnetization of the Ether in perfect and precise analogy with the polarization of Light? It will be found that polarization (if that be the word) of Ether, whether luminous or non-luminous, is the profound view for the solution of this question. But our author still further furnishes examples, that while luminosity is in very many cases the condition under which chemical action is started, the conditions of chemical action are essentially in the Ether itself. Hence the treatises that have been published under the names of "Invisible Light," and "the discovery of Latent Light."

Ether then is to be regarded as an essentially composite substance. Whether we might venture to think that the several elements of which it is composed, and which have each its fundamental colour, has each also its own fundamental attribute in other physical relations, we do not know; but if so, here we should have Ether containing within itself the fundamental attributes of all matter, and yet preserving for itself *per se* the essential prerogative of spirit. That it should take on and display the phenomenon of luminosity, on the presentation and maintenance of that condition, would seem to be but its receptivity for this condition so long as it is applied; and that this condition should be absolutely imponderable, even as Ether itself is imponderable, being the primordial fluid in which all matter is suspended, and in which all matter functions, is perfectly conceivable. It is said that *light* can be polarized, from which expression one of two things might be inferred; either that light is an entity *per se*, and as such can be polarized, or that the Ether, only when conditioned by luminosity, can be polarized; or a third mistake might be made, that Ether, as such, does actually take on the molecular constitution. None of these however, can be regarded as strictly correct, and hence the term "polarization," as thus applied to *light*, is perhaps somewhat unfortunate. The phenomenon simply indicates how readily Ether sympathises with, and in some sense represents, the conditions of matter immediately connected with it. What,

we may ask, is the distinction betwixt ordinary and polarized light? It may at once be answered, that, while ordinary light as a condition of Ether is absolutely homogenous and undistinguishable in respect of parts, what is called polarized light is an imitation of the conditions of the material, around which the representation occurs. This is seen by the reflected rays being moved precisely as the reflector is moved. This is but one of an endless variety of striking effects which are produced by what is called the polarization of light; and the most striking are those which obviously indicate that the Ether, penetrating, so to speak, within the molocules of the mass, represents the very structure of the mass; and that this representation is only observed when Ether is in the luminous state. This wonderful fact is proved, not simply by the beautiful spectra which are presented in the symmetric forms shewn by the polarized ray, as re-expressing the prismatic image, but also when the molecular arrangement of the body (whether by heat or by pressure) is altered, a new order of phenomena at once present themselves, and the discovery in consequence is made possible of the chemical constitution of bodies, which seems utterly improbable by any other mode of detection. Hence we can understand all those results, which Dr. Faraday has made himself illustrious in detecting, and which indicate the powerful effect which magnetism has in the *regulative arrangement of the particles* of fluids which are easily moveable over each other, and so produce a special molecular change in the body through which the magnetic ray is passing.

Here we are introduced to the wonderful process of crystallization. This feature in nature's laws has its formation obviously in the constitution of the atom, and of the molecule, as a certain aggregation of atoms. That electricity or magnetism has, in certain circumstances, something to do with the process, seems obvious enough; but apart from this, and as a fundamental law of matter, antecedent and indeed preparatory to electricity itself, as a phenomenon of material life, there must lie at the very basis what has been termed atomic polarity; and this atomic polarity can only be explained by saying that in the same circumstances it attracts at one pole, and repels at the other. Why it should do so, it is somewhat difficult to explain, for we should have been led to imagine, *a priori*, that it would

equally attract, or equally repel on all sides, as the case might be. We can only infer that this polaric agency, this peculiarity of incidence, or drift, or leaning, at the opposite points of the atomic axis, the one of a positive, and the other therefore of a negative character, must have been specially given to it by the Creator, when laying the foundations of a material world. There is no antecedent law whereby this peculiarity can be accounted for; but, when once given, we can readily understand to what an enormous extent this should operate as one of the gifts of Deity in constituting nature. Postulating, therefore, this prerogative of an attracting and a repelling pole, as the *fiat* of a Supreme Intelligence, it seems obvious enough that the element must operate according to the conditions which it has received.* Hence we find that the same substances always crystallize in the same forms when they are permitted to operate in their own unrestricted freedom. Here then we have what may be called *formation* in its simplest form. A strong solution of salt in hot water will shew, as the liquid cools, the cohesion of the particles framed into the form of crystals. If we can apprehend the fact, that atoms have received a special polar inclination, and also the fact, that according to their different fundamental qualities they will cohere differently, *i.e.*, according to the characteristics of the molecule, and therefore of the mass, they are intended to constitute; then it will be obviously expected that there should be great variety of what may be called crystallogenic attraction. It is proved that electricity, light, heat, and magnetism exert remarkable powers, either in accelerating or retarding crystallization; and the investigations of Faraday, with others, have certified that magnetism in particular has a *directive* influence in the formation of crystals. "The crystals of the sulphate of iron, for instance, slowly forming from a solution which has been placed within the range of a powerful magnet, dispose

* This is the maxim for which we contend throughout all the departments of creation, that *law* of every kind, and in every department, as *natural* law, arises, and must arise, from conditions instituted and established by an all-wise reasoning Intelligence. Hence we can afford to dispense with such inventions as "reason directing forces," in that we can by *a posteriori* principles exhibit all such *a priori* devices, as forces operating from, and only from, created foundations.

themselves along certain magnetic curves, whereas the Arbor Dianæ, or Silver-tree, forming under the same circumstances, takes a position nearly at right angles to these curves." Terrestrial magnetism has obviously had an active share in the formation of certain groups of crystals found in nature.*

It may be noted that though every substance, when placed under circumstances which allow of the free movement of its molecules, has a tendency to crystallize; yet many solids are capable of other modes of arrangement, which, without altering the chemical composition of the body, yet produce a very important modification of its properties. Sulphur, for example, may be had in beautiful octahedral crystals, which, on being melted and suddenly cooled, become tough, flexible, and transparent, and so is changed into what is called vitreous sulphur. Many elementary bodies undergo *allotropic* modifications: some becoming *amorphous*, that is, destitute of crystalline form altogether, as chalk, clay, &c.; and some undergoing arrangement in masses consisting of cells, fibres, membranes, &c., like the tissues of animals or vegetables, as hair, muscle, skin, wood, bark, leaves, &c.—(Millar, p. 112).

To this last character in the department of morphology we would now briefly direct attention. It is allowed that there is some analogy betwixt crystallization and organization: only that the latter is much more complex than the former in regard to the phenomena attending it.† We have already stated that, while the *atom* is the foundation of the former, the *cell* is

* The agency of magnetic influence is seen in many curious instances. "Certain crystals, in decomposing, have moulds of their own peculiar forms; and it not unfrequently happens, in the stanniferous districts of Cornwall, that oxide of tin gradually fills these moulds, and we procure this metallic mineral in the form of the earthy ore. Again, we have the curious instances of bodies crystallizing in a false form under a change of circumstances. We find pseudomorphism occurring by the removal of the constituent atoms of one body; while another set, which naturally assumes a different form, takes their place, yet still preserving the original shape. It often happens that copper pyrites will in this manner exhibit the angles of an ordinary variety of crystallized carbonate of iron." —(Hunt's Poetry of Science, p. 43.)

† Dr. Beale quotes an author as follows: "It is not probable that there is any real difference in the nature of the molecular forces, which compel the carbonate of lime (before amorphous) to assume and retain the

the foundation of the latter; but this fails to give any very correct idea of the foundations of the *vital* economy. While there is reason to believe that in the inorganic there is a variety of *germ-forms*, and in each of these, or in some of these, a variety of *germ-qualities*, this holds true in a still more remarkable manner with respect to the cellular system. In the department of physics, we find a varied morphology in the groups of crystals which present themselves in endless modifications of symmetry; but there is reason to believe that fundamentally each created atom, as distinct from the molecule, hath its own specific and individual nature as a simple quality. It would seem to be wholly otherwise with respect to the cell. Even the most simple cells, in the vegetable and animal departments, are obviously very compound substances; while the cells in the higher stages are not merely compound in respect of their qualitative standard, but exceedingly complex, as made up of parts in due adjustment to each other. Hence it is to be anticipated that in respect of the inconceivably minute, and excessively refined, relationships, in which the parts of a cell stand to each other, there would be a manifestation of changes, which no manipulation in the laboratory would be able successfully to imitate. Are we, therefore, to throw out these changes from the category of chemistry altogether? Nothing could be more illogical. Granting that there are changes in the

crystalline form, and those which cause the albumenoid matter to move and grow, select, and form, and maintain its particles in a state of incessant motion. The property of crystallizing is to crystallisable matter what the vital property is to albumenoid matter (protoplasm). The crystalline form corresponds to the organic form, and its internal structure to tissue structure. Crystalline force being a property of matter, vital force is but a property of matter." To this Dr Beale replies, "It might be objected that crystalline force keeps particles still, and compels them to assume a constant form, while vital force prevents them from assuming any definite form at all, and keeps them moving,—*form* being assumed only when the matter is withdrawn from the influence of vital force" (p. 25). We apprehend that Dr. B. mistakes the point in the analogy. The *movement* that is constantly taking place in the living cell finds its representation in the crystallizable matter when *movement* of atom after atom goes on in the formation of the crystal. The movement in both cases arises from principles fundamentally similar, and will go on in the latter case just as in the former, *i.e.*, so long as the mother-fluid is supplied.

physiological economy of which we have no experience in the merely physical, yet unless we can lay our finger upon a cause which without doubt we see in operation apart from chemical principles, we have no right to say that the effect is out of the range of chemistry. Assuredly not, unless we are able to say that we have swept the whole category of chemistry and know what it embraces, and can therefore say, not only what pertains to its functions, but also what does not. We may not, therefore, set aside the changes which occur in the vital economy to causes other than chemical, without, in the first place, setting aside the whole field of analogy; and in the second place, denying the facts of chemical function, which, without doubt, are manifested as characteristic of animal vitality.

While all are agreed that *vital* phenomena, as such, have their foundation in cellular structure, there are some who will scarcely admit that the question is quite settled as to the transit betwixt physics and physiology, viz., that the atom may lose itself in the cell. Dr Beale's researches have commanded deserved attention to the remarkable discoveries of the microscope in regard to cell life; but he stands forth, one of the most determined defenders of "vital force," as the ruling, and directing, and formative agency, utterly irrespective of, and antecedent to, any "physical basis of life;" nor will he admit the fact of transformation from the inorganic to the organic.* Dr B. says, "By chemical analysis we can ascertain the composition of

* Apart from the enormous difficulty of supposing an abstract vital force, operating upon material substance, having all the faculties of reason, in adapting, framing, and controlling matter in the construction of vegetable and animal structures, said force being itself regarded as an unconscious entity, there is this additional difficulty, that if there be an abstract force (viz., vitality) assigned to the world for the building up and maintaining of organization, it has not only a thousand and one schemes of operation to attend to, which hypothesis of itself requires large demands on our belief, but, inconsistently with this hypothesis, said vital force is itself tied down and made subservient, in regard to each separate scheme, in that it has to operate precisely as the germ-cell pertaining to the seed of each respective creature prescribes; so that, after all, its freedom, as a law of being, is determined and defined by the germ which pertains to the parent. Here then, in spite of ourselves, as searching for a cause of life outside of the physical element in which life is formed, we are yet constrained to limit this very force which characterises life as

the *formed matter* of protoplasm, and can learn many facts concerning its elementary chemical characters; but it is obvious that chemistry can teach us little with regard to the composition of the *living matter* of the organism, for we kill it when we attempt to analyze it; and in truth we analyze not the living matter, but the substances resulting from its death. Of course any one may say that the inanimate substances he obtains were the actual things of which the living matter was composed, but it is mere assertion, for the bodies in question cannot be detected in the matter *while it is actually alive;* and when obtained, they do not possess the properties or powers characteristic of the living matter." (Protoplasm, p. 22.) This author maintains that *living* matter is something peculiar to itself, and denies that "the chasm between the inorganic and

the peculiar expression of those material conformations which belong to every special case.

As to the fact of transformation from the inorganic to the organic, we can scarcely see how this doctrine can well be questioned, unless it can be proved that the inorganic world is supplied with a peculiar form of substance, which chemists at one period used to surmise as existing, but of which at this day they are unconscious. Dr. Alleyne Nicholson, who has just published a work on "Biology," and who generally supports the views of Dr. Beale, yet expresses himself clearly on the subject of transformation. "As a broad rule (he says) all plants are endowed with the power of converting inorganic into organic matter. The food of plants consists of the inorganic compounds—carbonic acid, ammonia, and water, along with small quantities of certain mineral salts. From these and these only, plants are capable of elaborating the proteinaceous matter, or protoplasm, which constitutes the physical basis of life. Plants, therefore, take as food very simple bodies, and manufacture them into much more complex substances. In other words, by the process of deoxidation, or unburning, rendered possible by the influence of sun-light only, plants convert the inorganic or stable elements (ammonia, carbonic acid, water, and certain mineral salts) into the organic or unstable elements of food" (Biology, p. 23). "The chemical actions (says Dr. Miller) produced by the sun's rays, which are taking place unperceived around us, are of infinitely greater importance than those limited transformations which can be effected in the laboratory; for it is upon these unobserved yet daily renewed alterations that the growth and renovation of the entire vegetable kingdom is dependent" (Chemistry, p. 1133). Quære: Does the reducing power of light, regarded as a condition of Ether, arise from the fact of Ether being absolutely structureless, in which case a plasma is thereby constituted formless, in order to its being susceptible of the forms of organization?

organic has been filled up." He goes on to state that though "certain substances resulting in the organism, during the disintegration of formed matter, may be prepared artifically in the laboratory, the chemist knows as well as the physiologist, that their formation in the organism is conducted upon totally different principles, of the nature of which all are entirely ignorant" (p. 24.) This seems very extraordinary language. If "*all* are entirely ignorant of the principles on which vital operations are conducted, how can Dr. Beale pronounce that the organism is formed on very different principles? Is he not, in the very same breath, upholding and repudiating ignorance in regard to the self-same question? But apart from this we humbly think that Dr. Beale wrecks his ship on the rock which alone he assumes for "living matter."

To this question of *living matter*, as distinct from what he calls *dead matter*, we shall now give attention. First, we may be permitted to notice that it is out of this "living matter," as commingling with the nutrient pabulum, that the "formed matter" is obtained, whose chemical characters he does not dispute. Nor does he dispute the chemical characteristics of the "living matter" when it is made to become *dead*. The tune on which he harps is this:—"Explain the difference between a living thing and the same thing when dead" (p. 3.) Might we say that for the moment it is the difference between a clock when going and when not going? But he will not admit that life is only a mode of physical force. After quoting the views of Owen, Grove, Huxley, and others, as against him, he falls back upon this, that "no distinction is drawn betwixt that which is living, growing, and forming, and that which has been formed and is destitute of all processes of life and growth" (p. 18). He seems to have no conception of force as being neither more nor less than *the expression of an existing material condition*, an expression not merely defined by the combination of one quality with another; but, where it is possible, indicating also the form under which the expression is evolved. He says, "if physicists and chemists would restore to life that which is dead, we should all believe in the doctrines they teach" (p. 27). We answer, in point of fact, they can do this: not probably in the peculiar instances demanded by Dr. Beale; and for a very good reason,

that they have not been able to combine the amazingly minute particles in the causality under which life functions in ciliary movements. This is a stage of advancement in manipulation, of which the laboratory obviously can show no illustration. But does it, therefore, follow that the living action displayed by the particles within the cell-wall have not their movement on the principles of affinity? As well might Dr. Beale deny that the worlds in space have not their movement on the principles of gravitation.* What is *vitality*? We regard it as the *normal activity* of organised conditions in combination, and is educed by a certain adaptation of particular organisms to one another. It is under this normal activity that the heart beats, and the blood flows, and the lungs play, and the kidneys, and the liver, and the various vessels of the body, function; and it is under this normal activity, as the organisms lie in due juxtaposition to one another, and in faithful adaptation to one another, that they are properly said to be *in life*. Nor can we think that, with all possible respect for Dr. Beale's valuable investigations into the minutiæ of the living economy, he can be regarded as correct in

* Dr. B. gives a beautiful illustration of a centripetal force operation in conjunction with a centrifugal force in the phenomenon of cell-operation. "Movement takes place in the most minute living particles in a direction from centre to circumference, while the inanimate matter, which is about to become living, passes in the opposite direction; or in other words, the inanimate matter passes into the centre of a particle which already lives, becomes *living*, and then moves outwards. The flow of the inanimate matter is *centripetal*, and the movement of the living matter is *centrifugal*. Both sets of movements are to be accounted for by the centrifugal tendency of the living matter; for it is obvious as it thus tends to move from a centre, a flow in the opposite direction must be induced. Such tendency to move from a centre, it would seem, must be due to a force very different from that which controls the movements of inanimate matter. Moreover, while cosmical force influences masses of the largest magnitude and of infinite minuteness, through varying distances, the vital forces can only exert their sway when the distance is infinitely slight; and it would seem that this influence can only affect matter which is brought into the very centre of the living particle" (p. 82). It is a mere assertion, utterly unsupported, for Dr. B. to say that "such tendency to move from a centre must be due to a force very different from that which controls the movements of inanimate matter;" while the fact of the vital forces only exerting their sway "when the distance is infinitely slight," proves the truth of the rule that the force of gravitation extends directly as the mass, and inversely as the square of the distance.

confining the term *life* to that "transparent and structureless and moving germinal matter, which takes up the nutrient pabulum as it moves on;" and still less, that he is correct in thinking that vitality is a mysterious force, *ab extra*, applied to certain properties of matter. Does it constitute life that the particles of matter should have "*spontaneous* movement?"* Then do we find no end of this in what Dr. Beale calls "dead matter." Does it constitute life that the particles of matter should exhibit a certain amount of activity? Then, what is the line of demarcation whereby this activity is to be measured? We thought that the amount of activity would only indicate the intensity or degree under which life has its being. Does it constitute life that it should exhibit a certain *formative* power? This can be exhibited in the laboratory where a nucleus exists, in that its resemblance can be expressed where there is a suitable

* Dr. Beale says, "One characteristic of every kind of living matter is spontaneous movement. This movement [in the cell] occurs in all directions, and seems to depend upon changes in the matter itself. In these movements, one part seemed, as it were, to pass through other parts, while the whole mass moved, now in one, and now in another direction, and movements in different parts of the mass occurred in directions different from that in which the whole mass was moving" (p. 39). What more complete example could be given, not only of "spontaneous movement," but of the vast variety of the "lines of force" which may at the same time be playing in the self-same medium? But what is "spontaneous movement?" What but this, that, when you posit anything in any particular position, it begins to move of its own accord. All chemical affinities afford illustration of this. And what occasions this spontaneity? What but the relationship into which the substance is placed, and which is affected by the new conditions to which it is subjected. If then we are to receive it as sound doctrine (and we do so on Dr. Beale's authority) that the nuclei and nucleoli pertaining to the cell are of different qualities, then are not the very representations of cell-movement described by him, such as we should expect in the free germinal matter? The author indeed himself supplies the very ground of all movement when he tells us that it "depends on changes in the matter itself." That the whole is due to chemical considerations, he makes obvious enough, by intimating to us, that upon altering the external conditions, such as the infusion of different pabulum, the application of cold, &c, "the movements become very slow, and then completely stop." Dr. B. indeed asks the question, "are these phenomena at all like anything known to occur in lifeless material?" We cannot help thinking that the self-same chemical and physical principles are precisely illustrated thereby.

medium. Does it constitute life that there should be present a complication of forces, as operating in commingled association? We can point to "lines of force" in nature, operating longitudinally and trasversely, with attraction and repulsion simultaneously, in the self-same medium. We, therefore, wait for a better definition of life than Dr. B. has supplied. That life has been, and can be, restored in respect of that which is dead, no one can fairly doubt who will fairly regard the facts. We seek no better example than that which Dr. Nicholson supplies in regard to *Rotifers*. "They may be dried and reduced to dust, and may be kept in this state for a period of many years; nevertheless, the addition of a little water will at any time restore them to their pristine vigour and activity. It follows (he adds) that an organism may be deprived of all power of manifesting any of the phenomena which constitute what we call life, without losing its hold upon the vital forces which belong to it. It seems, however, hardly necessary to add (he continues in support of Dr. Beale and as using his words) that this is a mere instance of *revival* and not of *revitalisation*." * (Biology, p. 16.) Two things strike us here, as against Dr. Beale. One is, that, if the vital force be a free force operating on matter, here is a case in which matter somehow locks it up, and prevents it from all exercise, in short, keeps it in captivity, consequently there must be some counteracting force which arrests the vital force. That this is the case is explained by the change which takes place in the *condition* of the creature. And does it not confirm the doctrine, that condition is the measure of force? The second thing is, that, in the example now given, life is shewn to be dependent on the supply of a certain chemical element, viz., water. It is obvious to us that while the normal structure of organization might be preserved, as we know is done daily

* What is the distinction here pointed to? To *vitalize* is to give life, *i.e.*, "to infuse the vital principle;" to *revitalize*, therefore, is to supply a subject with the life which it had lost. And what is the meaning of *revive*? It means to reanimate, to bring again to life, to recover life that has been lost. If Dr. Beale's and Dr. Nicholson's distinction here means anything, it implies that, in the one case, an *entity* called vitality has taken flight, while, in the other case, its operation is merely suspended. Where is there the most distant proof of this? But the two terms form a distinction without a difference.

under circumstances in which life is impossible, yet vitality will not function, because, like all other causality, the combination which constitutes vitality will function only when every element pertaining to the vital combination is actually present in its integrity.

But let us follow Dr. Beale for a little into the character of this "vital mass" as pertaining to the very foundations of life. "There is in living matter nothing which can be called a mechanism, nothing in which structure can be discerned." It would seem that each part possessed equal powers with the whole; for the smallest particle detached may soon grow into a body like the original mass in every respect; and the process may be repeated infinitely" (p. 79). Again, "let us imagine we could look into the ultimate particles of the living, acting, moving matter, I think we should see spherules of extreme minuteness, each composed of still smaller spherules, and these of spherules infinitely minute. Such spherules have upon their surface a small quantity of matter differing in properties from that in the interior, but so soft and diffluent that the particles may come into very close proximity. In each little spherule the matter is in active movement, and new minute spherules are being formed in its central part, and these are making their way outwards so as to give place to the formation of new ones which are continually appearing in the centre of every one of the living particles" (p. 80). It would seem, at first sight, a sort of contradiction to be told that "the germinal, or living matter, is always transparent, colourless, and perfectly structureless, and that this formless living matter moves forward and burrows into the nutrient pabulum, some of which it takes up as it moves on," (p. 36), and then to be told of spherules, or globular elements, of inconceivable minuteness, one involved within another, evolving themselves in the manner which Dr. Beale has well described. But there is no contradiction; for the spherules have regard to a primary nucleus as the "germinal spot" within the cell. What then? Why, have we not here in the nucleus and in the nucleoli within the nucleus, as having some relation to, if not derivation from, the complex character of the cell-walls, that most amazing contrivance of all, which forms the *created foundation* of a vital system; for in these there seem to be wondrously contained the rudimentary elements of those *con-*

ditions and *forms*, which, being susceptible of development and growth, mark the physiological structure.* Of these nuclei and nucleoli, Dr. B. remarks that they are of "complex composition;" and they are not unlikely to be, therefore, the very foundations of the different systems of tissue with which the animal economy is furnished, which tissue in its development displays itself in a symmetric configurement of bone, muscle, sinew, nerve, &c., while the germinal matter in the cell, properly regarded as protoplasm, is fundamentally the medium adapted for this germ-life,—a medium in which the operative forces of the nucleated matter, not only play forth their functions, but which impress their forms as truly and as freely as the magnetic forces which are so beautifully illustrated by the so-called polarization of light. The germinal matter of the cell, therefore, being fundamentally the primitive nutrient with which the cell is radically furnished, the "life" therein induced, through what may be termed the magnetic and formative properties of the nucleated ground-forms in the cell-walls, is but the manifestation of the varied conditions, inconceivably minute indeed, yet unmistakeably present, in the assemblage of provisions with which the cell-wall in its integrity abounds;† and while said

* "Very generally, but by no means universally, the cell contents exhibit in one place a definite rounded or oval body, which is termed the 'nucleus.' This varies much in actual structure, sometimes being vesicular, sometimes solid, and sometimes composed of granules. That the nucleus plays an important part in the cell-life cannot be doubted; but opinions are still divided as to its exact functions, some regarding it as the most important agent in cell-activity, whilst others consider it of comparatively small moment. That it is composed of growing and living matter is shewn by the extent to which it is coloured by carmine, and it seems in many cases to take the initiative in the process of cell-multiplication" (Biology, p. 74). "Either lying freely within the cavity of the cell, or, as more commonly happens, attached to some part of its walls, we usually find a body of a somewhat granular appearance, which is called a *nucleus*." "It seems to be the general fact that every animal-cell possesses a nucleus at some period or other of its life." "There is a strong reason to regard the nucleus as the chief agent in the vital operations of the cell." "The simple cell may be regarded as the type of organisation; and on its actions rest our fundamental idea of life." (Dr. Carpenter.)

† This view is in perfect accordance with what has been asserted with respect to the origin of the epithelial cells which are formed on the surface of the mucous membranes, and which have to be constantly renewed as they are being constantly exuviated. Dr. Carpenter says, of the

germinal matter is used up by its transformation into the granular elements which are in constant multiplication within the cell-walls, fresh material, as it is needed, is obtained and assimilated from the pabulum assigned to it as the nutritive supply for growth. And we are the more confirmed in this supposition, when we take into account all the surroundings of cell-life. It is obviously a chemical process, when we find the cells absorbing their nourishment from the medium in which they are placed by the osmotic action through the cell-walls. It is obviously a chemical process, when we find new living centres of growth constantly being originated in the germinal matter, and the production of new centres from pre-existing centres. It is obviously a chemical process, when we find the nutrient matter passing into the very centre of the living particles, and becoming thereby assimilated in form as well as in condition. It is obviously a chemical process, that, under the change which germinal matter experiences as it passes through various stages, it should ultimately issue in fully developed structure according to its intrinsic typical nature. "Many different elements (says Dr. Beale) may exist in very different proportions in living matter," *i.e.*, in the "protoplasm" with which the cell is furnished; and hence its entire adaptation as an element for being wrought upon, first in submission to *elective* affinities, and second in submission to the *formative* agency which each of these affinities happen to pourtray. Dr. B., indeed, strenuously maintains that, so long as we are not in a condition to exhibit the self-same phenomena as is displayed in the appearances of cell-life, by what is effected in the laboratory, we can have no claim to regard the changes now referred to as owing to merely chemical processes. But no conclusion was ever more inconsequent. Unless he can himself shew another and a different principle, as actually at work, the burden of the argument is without question on the side of the physicist. That chemical processes are constantly engaged in producing certain changes which are momentarily taking place in the living economy, is confessed by all men of science, and by Dr. Beale; are we then

epithelium "here it would seem likely that the cells are developed in the very substance of the basement-membrane, perhaps from 'germinal spots' contained in itself, as suggested by Professor Goodsir" (Human Physiology, § 233.)

to beg the question, that there is another and a totally different principle at work, when it is admitted that some phenomena, which are as yet obscure, *may* be proved to belong to, and result from, the self-same principles of Causality? Dr. Beale says, "there are no characters by which one nucleolus can be distinguished from another." Very likely not, so far as any microscopic examinations of the individual nucleoli might indicate a difference; but is there therefore no difference? On the contrary, he himself expressly says, "that there is a difference is proved by the difference in the results of *living*," *i.e.*, as we understand the expression, in the results of a varying activity in the germinal matter as variously affected by different nucleoli. If our intrepretation of his language be correct, then we have Dr. Beale ascribing to the conditions of existing forms all that we would contend for; and whether we call it vital force, or physical, or physiological force, or chemical force, is of small moment, provided we understand that it has its origin in some germ, which always pre-exists as the condition of force. True it is, that, when Dr. Beale has this conclusion fairly placed before him, he will not acknowledge it. He says, "it has been suggested, that the different substances, and different structures, produced by germinal matter at different periods of development, may depend upon *the different surrounding conditions* present, when the changes occur." Instead of agreeing to this, he makes the following observation:—"It seems to me these must be referred to the influence of very different antagonistic forces, acting upon matter in opposite directions." Dr. B., instead of yielding to a principle which is capable of endless illustration, and which he himself unconsciously seems from time to time to uphold, will have recourse to the old maxim of *a priori* immaterial forces as regulating the whole world of matter. If they are *a priori* forces, they are therefore *independent* forces; but the fact stands confessed, that they are not independent of the conditions of matter, but may be suspended or changed by a change in condition. If they are thus obviously dependent on condition, why not allow it? We apprehend there would be no difficulty in allowing it, were it not for the bugbear of materialism. This bugbear, however, can only remain in the minds of those who fail to apprehend what materialism is; for materialism in its deepest momenta is proved

to be derived from spiritualism, to be intimately connected with spiritualism, and to be constantly dependent for its operation upon spiritualism. Dr. B., forgetting that matter and force are terms which in a sense cannot be separated, in as far as (at all events so far as we are directly concerned), there can be no matter which does not imply force, and there can be no force of which we are made sensible, but there must be the agency of matter, thinks that there must be "some force which influences the ultimate elements of matter, and causes them to take up particular relations to one another, so that when they combine, compounds of a special kind, and possessing special characters, shall be formed" (p. 86). Here we might fairly ask whether "the ultimate elements of matter" must not of necessity in themselves have an intrinsic *a priori* relation to one another, even as the factors of every science must have, before we can speak of the combination, and anticipate the results of their combination, as a conclusion of necessity? And further, we might ask whether the very fact of the introduction of special conditions of matter, not possible to any natural law, but as the direct production of a conscious and a purposing Intelligence, does not indicate that said conditions *constitute the foundation of natural law when they reflect themselves* in media adapted for this end; and that such prerogative constitutes the foundation of our perceptivity? Instead, therefore, of begging the question of some inexplicable force, as the agent in natural law—an agent lying in the background of absolute mystery—an agent of which we can know nothing, whence it comes or whither it goes, or what it is, or how it acts, or under what circumstances its influence is directed, or on what principles its operations as "force acting upon matter in different directions" are conducted, or what is its habitat, or in what kind of entity it subsists, or whether it is conscious or unconscious:—in considering all which we can only become distracted, "in wandering mazes lost;" how much simpler is it, that, positing the fact of a Great Intelligence, otherwise inductively pressed upon us, as at the foundation with all the appliances needful for the exercise of a mighty Reason, we should regard him as fundamentally and primarily laying certain forms, and prescribing to these forms their respective conditions, with the prerogative of *uttering themselves* in media adapted for this end; in which case we have the very

principles of natural law constructed, and an obvious groundwork laid for their varied operation as the laws of the universe?

We might have extended our remarks on the forces of nature, as they present themselves for our consideration in the case of the nervous and muscular tissues of the animal economy. But we shall only here observe, that, while nerve-force is indubitably manifested as one of the most important of the natural functions of the living animal, and while, moreover, it is on all hands agreed that it has an analogy to electricity and magnetism in the physical creation, it cannot easily be substantiated as absolutely one and the same with the magnetic and electric phenomena prevailing in the inorganic; and for the simple reason, that the operation of the nervous system is influenced by forces exceedingly more delicate and refined. True it is, that the vibrations of sound with the characteristic peculiar to the sound are carried through the nerves of hearing; and the pulsations of light with the characteristics peculiar to the objects as visible, are carried through the nerves of seeing; and so also in regard to the other senses; but the very fact that these nerves of the animal system are simply adapted to what may be regarded as *the natural and normal* electricity of the world, it follows that they are not likely to function with the violent and unnatural stimuli of those spasmodic forces which are the exceptions to the voice of nature. At all events, it can be readily understood that the refined, and feeble, and nice operation which constitutes nerve-force, as the stimulus of conveying to intellect impressions of which each particular sense is susceptible, can no more be confounded with ordinary electricity than the nerve of hearing can be made a substitute for that of seeing.

We might have carrried our observations a stage further, and hence proceeded from the phenomena of matter to those of sensation and of mind. We cannot now enlarge on this deep, question, however important All we shall say is, that it is obvious to us, first, that before sensation can be evolved, a quality must be regarded as *introduced* as an accession to matter, which does not essentially pertain to it as matter, in the mere *objective* economy of the world; and, secondly, that the introduction of that quality of substance which generates sensation is the very first step towards the construction of a *subjective* economy. We have endeavoured elsewhere to point out that

the subjective is but the correlative of the objective; the mental or intellectual ground being the receptive quality wherein is aroused a consciousness of objective existence, when the impressions of objective existence have been carried to it, and consequently, out of which we obtain the fact of a conscious personality. How this fresh quality of substance is introduced it is not for us to say: how it comes, as by a law of nature, to have its specific attachment to certain states of cerebral arrangement we cannot say. This we may say, that, in harmony with other conditions primarily established by the Great Author of our being, we find he hath so constituted the states of the cerebral departments of the animal nature, that therewith there comes to be effectuated or realized the manifestation of that mental subjectivity which exactly accords with the organic properties and developments of the creature; and that in this mental subjectivity the perfection of creatureship consists, that is when in the possession of the attributes essential to intelligent existence.

APPENDIX IV.

ON BERKELEY'S PRINCIPLES OF HUMAN KNOWLEDGE.

THE difficulties which Philosophers have experienced in apprehending the process whereby Intelligence is acquired and is built up in the soul, have been so multiplied and increased from the erroneous views which have been entertained of matter and of spirit; and the principles of Berkeley having been recently brought prominently forward for acceptance by the thinking community, we have thought it well to make a brief review of these principles, and to scrutinize their value. And while our examination of them will lead us once more to touch upon the grounds of Perception, yet the idealistic philosophy is so very much imbued with his type of thought, and is clung to with so great tenacity, that a bolt at the *ideal* Bishop may neither be undeserved nor unprofitable. It has been said that the object of the Berkeleyan philosophy was to convince mankind of the existence of an infinite principle known as Spirit or Thought, and that man partakes of this principle, and that by consequence he is immortal, free, and in communion with God. Assuredly, the light of Berkeley has not been hid under a bushel, and his philosophy has had more than an ordinary share of respect; and yet we are ill at ease. How could it be otherwise? for that philosophy without doubt contradicts the first and foremost thoughts of every man, that the things we perceive in the world are real, and that they are in point of fact what we take them to be. His philosophy could have no place for an hour, were it not that his doctrine of ideas, being (as we readily allow) things of the mind, and in the mind, he has confounded the world by asking—what other things can we know of out of the mind? We shall give a résumé of the views of Berkeley, and reply to them as we proceed.

I.—The following are his views on

IDEAS AND SPIRITS.

The objects of human knowledge are reduced to two heads—

Ideas and *Spirits.* Ideas, whether imprinted on the Senses, or formed by the help of Memory and Imagination, are in themselves unthinking things, without any inherent power or agency; and incapable of being the cause of any thing; and without any existence save in so far as they reside in, or belong to, Spirit. A Spirit is that uncorporeal power or substance, which thinks, wills, perceives: a spirit is the mind, soul or self, which perceives ideas.

Reply.—We admit at once that ideas are in themselves "unthinking things;" and it is well to have the idealist declaring that he can know anything "in itself;" but that ideas are "without any inherent power or agency" we do not admit. How happens it that ideas move a man, and excite or depress a man according to their nature? Tell a man of a piece of good fortune or bad fortune and he is affected accordingly. Again, we are scarcely prepared to admit that "ideas have no existence, save in so far as they reside in, or belong to, spirit." If this be the case, I may as well be told that the seal which I use to impress a stamp upon the softened wax has no existence, save when it is so employed: or that I have myself as a form no existence, save when I see that form in a looking-glass: or that when I am asleep I am blotted out of existence. Surely the impression, of which the idea is the correlative, may exist, though the idea, as such, may for the time be absent from the mind. If Berkeley be right, then we must infer that the sun has no existence, save when it is above the horizon, or rather only when when we have the idea of that luminary. And are we to be told that this is true? Then we are fairly entitled to ask, whence comes the Sun? If he had no existence an hour ago, *how comes he to exist now?* Let this question be answered. How does this spirit of ours, termed self, bring up entity out of non-entity? Are we told that this cannot be known:* then we reply, we have a better way; and we reject this dogma—first, because it

* Berkeley, indeed, says that while the spirit as *understanding* perceives ideas, the spirit as *will* produces ideas. This only throws back the question into greater mystery. What, we ask, is understanding, and what is will? They are but themselves phenomena, and must themselves be caused. How comes the Spirit to exercise understanding and will? Upon the principles we have advocated we can fairly answer the question; but upon Berkeley's principles no answer whatever can be given.

contradicts all human conviction in externality; and second, because it assigns results as possible without any cause.

It might be thought that Berkeley admitted an external world, when he speaks of "ideas unprinted on the senses;" but he regarded the whole world of visible sense as grounded purely in mind. The production and reproduction of ideas in endless variety he ascribed to "the immediate operation of a spirit, or thinking being." Hence it comes out under this idealism, that things exist because they are perceived, not that they are perceived because they exist; and it follows that the death of each separate individual is the utter destruction of the world! Hence there must be as many worlds as there are persons in it! Surely such extravagance might teach us a little wisdom on ideas.

We totally repudiate the meaning which Berkeley has given to the term *Spirit* as its proper and exclusive signification. The meaning of this term is not so much a capacity to think and will, as *a capacity to manifest the condition or conditions imposed on it.* But this capacity has reference to two departments or precints, known as the Objective and the Subjective spheres of Spirit. As to the former, we speak of it as the capacity of bearing existence—of affording exteriority, or of giving reality, to the conditions of existence: As to the latter, we speak of it as the capacity of carrying the cognition of existence—as that kind of interiority which gives forth an intelligence of existence, when its forms are carried thereto. Holding that the essential attribute of Spirit is the capacity of giving expresson to condition, and that this capacity constitutes the very source and spring of force: then the objective would express mere physical states, and the subjective would express an intelligential aspect of those states. Hence we may venture on a definition of the term Spirit as applicable to the personal Absolute, and to man as a miniature manifestation thereof, we would say that Spirit is that fundamental substance out of which all things primarily proceed, that it has an objective aspect as the foundation of all cosmical existence, and that it has a subjective aspect as intellectual existence; and that intelligence fundamentally subsists in the latter as the correlate of the former, while yet *creation* in all its variety is the offspring of the latter. In this way we see, first of all, Deity as cognisant of his own Being; and being cognisant,

as discharging the functions of his own absolute intellectual life; and secondly, we see man as cognisant also of his own physical being and of physical states; and when made cognisant, discharging the functions of his own limited intellectual life. Hence the Ego must imply, not pure intellect, *per se*, but all that stands as the personal correlate which Intellect appropriates, and out of which Intellect hath its structure built up. Hence we are bound to hold that all individuality comes to be impressed upon Intellect, only because a previous outside individuality already exists in what we have called the objective side of Spirit. Thus then, it comes to pass that the objective must be regarded as the foundation of existence, and the subjective as that deeper side of Spirit, which marks an intellectualism in respect of said existence, as consequently being the conscious reflection of existence; and this as preliminary to the exercise of intellectual function. All this stands in wide contrast to the Berkeleyan hypothesis which gives Spirit, not only the native power of thinking *per se*, but the power of creating ideas, *i.e.*, existence for itself in some way utterly beyond our ken, and outside of all analogy of which we have experience: and, moreover, with the power of jostling ideas, (*i.e.*, existence!) in any and in every possible direction. Instead of regarding Intellect as the *mental ground* wherein the condition of things, when carried thereto, receives subjective *significance*, and consequently arouses understanding and will, he makes Spirit to be, not merely simply and exclusively intellectual, *i.e.*, subjective only, but ignoring an outer existence and the foundation of an outer existence, he makes Spirit to be that subjectivity which has the pure *a priori* prerogative of being the efficient and active cause of all our ideas!

II.—This leads us to the consideration of another of Berkeley's principles, viz., the alleged fact that there is no proper distinction between

BEING AND KNOWING.

Berkeley, in holding that all ideas whether of Sense or of Imagination can exist no otherwise than in a mind perceiving them, [and herein he is perfectly right] holds that existence and the cognition of existence are inseparable—that its *esse* is *percipi*. I might (he says) as easily divide a thing from itself as to separate ideas from perception. He cannot conceive an object

distinct from the perception of it. Hence all those bodies which compose the frame of the world, when not actually perceived, must either have no existence at all or must subsist in the mind of some eternal spirit. He is content to put the whole question on this issue:—If you can conceive it possible for one extended moveable substance, or in general, for any one idea to exist otherwise than in a mind perceiving it, I shall readily give up the cause.

Reply.—To this we at once answer, and we answer with Berkeley, that we cannot conceive an idea to exist otherwise than in a mind perceiving it; but, contrary to Berkeley, we can easily conceive "an extended moveable substance" out of and beyond the mind perceiving it; and not only this, but that we cannot conceive such a substance otherwise than as out of the mind. Here then comes the tug of war. Unlike to Berkeley, we do not confound ideas with existence. Ideas we hold are but the *reports* or *representations* of existence. No (says Berkeley) "ideas can only be copies of ideas," and "no idea or archetype of an idea can exist otherwise than in mind." We grant, or rather say, that mind is intellect under the reception of ideas, but we do not grant that "ideas can only be the copy of ideas," even as we do not grant that a picture can *only* be the copy of a picture; but that an *echo*-form, from an original, may be reflected as on a mirror. Ideas are fundamentally only the impressions of the originals, and carry along with them the characteristic which belong to them as forces, and which are inseparable from them as forces; and they become ideas, only when these impressions are lodged in a ground endowed with sensation. Thus we can tell whence they come and what they are. And we prove that there are such operations as impressions made by one substance upon another through the ordinary course of existing things, by the transmission of images in, or by means of, light; and that said images are the representations of the things. But Berkeley cannot tell whence his ideas come, nor whither they go; nor how they are brought in; nor indeed any thing at all about them. We point out then that ideas are not the archetypes but the ectypes or adumbrations of existence; first, because nature in her communications to mind must be regarded as true to us; second, because the sense of one man confirms that of another man, when both are observing the same

object; third, because in the nature of things, Intellect can receive only a *report* of external things, and that report can only be by representation; fourth, because we know by experience that there is the fact of representation of an object to a sphere, as prepared to receive it, and we are enabled to compare the representation with the original as a faithful copy; fifth, because we know also that when the channel through which the representation comes is closed, no report is furnished, *i.e.*, no representation is made, *i.e.*, no idea is supplied.

What then about *esse* and *percipi* being one and the same? To *esse* we give a definite and separate existence, an existence as established by the hand and device of the Creator, an existence before there was any human *percipi* to have an understanding of it; and this argument should, with the good Bishop, have had its proper weight, as being an assurance recorded to him from the Prime Source of all things and of all truth; for, according to the Word of God, it was only on the sixth long day after the *esse* had its being established, that the *percipi* was brought into attitude as the intellectual capacity for cognising existence. This authoritative dictum, which the crust of the earth as well as the revelation of the Scriptures proclaims, should be enough to settle the point; but we have no hesitation in saying that on the field of pure reason no greater illogical monstrosity was ever exhibited than to say that a thing exists only because it is perceived, and that all (whatsoever we perceive) is the manufacture or creation of our respective minds.

III.—We are now led to another of the Berkleyan theories, that

Ideas are the Creation of Mind.

It is allowed, says Berkeley, that many ideas are the mere creations of mind: Number for example. The same extension, he adds, is one or three, or thirty-six, according as the mind considers it with respect to a yard, a foot, or an inch. We say one book, one page, one line—all equally units, though some contain several of the others. Moreover it is granted on all hands that it is possible we may be affected by the ideas we now have, though no bodies resembling them existed without the mind. What happens in dreams, phantasies, and the like, puts this beyond dispute. Hence the supposition of external bodies is not necessary for producing ideas.

Reply.—Never was any conclusion more inconsequent. "Dreams, phantasies, and the like" are not the pure creations of mind, but the recurrence of old impressions under new relationships; and it is the purest assumption to say that "we might be affected by the ideas we now have, though no bodies resembling them existed without the mind." Then it would follow that the man who was born blind would have the same ideas of colours and shapes, and their harmonious combination, as the man who sees; and that the man who was born deaf would be equally acquainted with sounds, and the harmony of sounds, with him who has cultivated this. But is it so? We find that he, whose sense of seeing has been always closed, has been shut out from the ideas imparted through that sense, and that he whose sense of hearing has been always closed has correspondingly been shut out from the ideas also of that sense; and we are obliged to conclude that if a man were shut out from the world altogether, by an entire closure of all the senses, would be nothing better than a vegetable; that is, though intrinsically possessing Intellect as the foundation of thought, yet for want of the transmission of any forms thereto, and the consequent want of any disturbance of Intellect, he would be without any thought at all. As having and possessing Intellect, and as having also the sensation of a living framework of body, there would no doubt be a certain minimum of consciousness, *i.e.*, the consciousness of certain bodily sensations, but there would be nothing to open up intelligence respecting these sensations, nothing in short, in such a man, of that epigraph or delineation of which Ideas are composed.

Are Ideas then the creation of the mind? That certain ideas are the creation of the mind is not to be questioned, when we think of the creations of Imagination, and the devices which a purposing Intelligence brings out. What then? Why, all these devices of Imagination are but the new relationships of pre-existing material (if we may term it so) which had been primarily gathered through the senses from the external world. Dreams and phantasies are but the irregular spurts of the cerebral machine, when peculiarly excited by some stimulus. Nothing can be more natural than in cases when the brain may be disordered, or the sleep irregular, or when the mind may have received intelligence calculated to disturb repose, that a broken and irregular series of sensations may have been aroused. But

what are they all? What, but the *disjecta membra* of old impressions brought together under new and odd combinations?

Our author says that Number is a creation of the mind. Why Number is a term that is necessarily begotten out of a repetition of the self-same outward object. If we had no repetition of the self-same thing, it is questionable how far we should have the idea of Number. Number, at all events, denotes the multiplicity of a thing. There is no idea carried more fully or practically from without than that of Number. We are obliged to give a name to the sum of parts which make the whole. Or suppose they are not the self same elements, yet if we posit them under some general designation as applicable to each and all, and call them *articles*, we are constrained to designate these as a *number*. Berkeley instances Number as a manufacture purely of the mind, because the same extension, he says, is by it regarded as one, or three, or thirty-six, according as the mind considers it a yard, a foot, or an inch. Here our author utterly abandons his logic—that logic to which the mind instinctively clings in its own natural reasonings; for the extension, which is characterised as a yard on the one hand and an inch on the other is not one and the same. Instead of being the same extension, each is a different extension. Suppose a yard measure. Very well; taken as a whole, *it is what it is*—a yard and nothing else; but if we consider it with respect to a foot, instead of being the same, we finds that a third part of it only is apportioned, consequently that it requires three of these parts to make up the whole extension. And so with respect to an inch. But when we compare the extension of three feet and thirty-six inches with one yard, and find them all to be the same extension, does it follow that the numbers three and thirty-six are the mere creations of mind? Why, the whole of these have come to the mind *ab extra* as ratios. And so with the book containing so many pages, and the page so many lines; and so with the axiom that "the whole is equal to all its parts." Before such an axiom can have its stability secured, we must have had the practical experience of a *concrete* whole, and of the *concrete* parts of that whole. The figures, indeed, which we employ in arithmetic are themselves the outward representations of things, and without the organ of sense to lay the foundation of *factors* in the mind, the mind would make but a sorry affair in its calculations.

IV.—Let us now proceed to consider

BERKELEY'S VIEWS ON MATTER.

He tells us that though we give the materialists their external bodies, they, by their own confession, are in no degree the nearer knowing how our ideas are produced, since they cannot comprehend in what manner body acts upon spirit. By matter is understood an inert, senseless, unknown substance, in which extension, figure, and motion do actually subsist. How then can that which is absolutely passive excite us, or in any way immediately affect our minds? We have shown (he says) that extension, figure, and motion are only ideas in the mind; hence the notion of corporeal substance involves a contradiction. But even if there were external bodies, it would be impossible we should ever come to know it; and if there were not, intelligences would have all the same reason to believe in the existence of corporeal substances.

Reply.—Let us take these statements in their order. His first averment here is that materialists admit their inability to shew in what manner body acts upon spirit. Suppose they did admit this, it would be no reason, surely, for denying the facts made patent to every man. Every man has the idea that he has a body and a soul—that his body is material and that his soul is immaterial, or, at all events, cognisable only on account of its consciousness; and every man knows and feels that these two act and re-act upon each other. But, says Berkeley, shew that what you call body is really corporeal; for this is what I deny, since this corporeity of yours is only an idea in the mind. True, I answer, but it is an idea which is either true or false. If true, then I am bound to believe that matter is just what it is (by said idea) represented to me to be; if false, then I ask upon what principle am I to believe anything at all? He, therefore, logically gains nothing, suppose we were utterly unable to say in what manner we obtain our ideas.

But are we thus helpless? Says Berkeley—Yes! for matter is absolutely *passive*. We reply—Quite the reverse! for there is not one thing in the universe that is absolutely passive. What! says Berkeley, Is not matter inert, senseless, and unknown? We answer, if it were unknown, how can you pronounce it to be senseless and inert? But it is not unknown;

and while we agree with you that it is senseless, it is the very opposite of being inert. You may say that the stones, as they lie on the ground, are inert, but if you try to break them you must use force: does it not follow that, whatever force you require to separate the particles from one another, with the same force they cleave to one another? But, says Berkeley, they are inert so far as they are related to your mind. Not that either, we reply, for there is throughout all nature a representation of whatever objects exist, and which are seen diminished as the square of their distance is increased; so that, though the greater the distance the less the object appears, yet we are by-and-by enabled to judge truly as to size, by allowing for distance. That such is the case needs not now to be proved, being a well ascertained fact, and that there is a universal representation of all objects in and through the etherial medium—a representation made visible to us when said medium is lighted up by the solar ray, is obvious enough by endless examples; and as an illustration of it, any one may be convinced by setting up a mirror before the object when the reflection of it is arrested thereby, and depicted thereon. But, says Berkeley, are not extension, and figure, and motion mere ideas of the mind? We reply, they are reported to the mind; and the reports become ideas which are correlatives of the things, as they exist outside of the mind; and they become the property of the mind, when the impressions of the things, with the several characteristics attending them, are transmitted to the intellectual nature. But, says Berkeley, how can body act upon spirit? We answer, first—You are inconsistently here putting yourself in the attitude of the mere sceptic, who will not believe unless he also understands; and second—That you are taking up a totally erroneous notion of body on the one hand, and of spirit on the other. If you would understand the question aright, you must know that there is no such thing as a body which has not its foundation in spirit, and its operation with spirit, and you must know that *spirit is that potential entity which simply gives expression to present conditions*, and that all created nature is comprehended and lives and moves therein. When, therefore, the representation of external objects is carried to Intellect through a suitable medium, which conducts to Intellect, it is, in point of fact, spirit co-operating with spirit; or, if you will,

it is the objective side of spirit conducting its conditions to the subjective side, and so fulfilling the entire powers of spirit according to the conditions present. But, says Berkeley, in conclusion, should we not have all the same reason to believe in the existence of corporeal substances though there were no external bodies? What! (we reply) have reason to believe in things that are not! Then, truly, our nature would be a lie, and the Author of our nature a Deceiver. Not at all, says Berkeley! Is not the mind of man furnished with its own innate principles of operation? Have we not all innate ideas, as our inherent possession, wholly independent of our senses, and therefore wholly independent of the external world? We reply—You stated your side of the question on the issue that if anything like an idea could be found otherwise than in a mind perceiving it, you would readily give up your case. We have taken up this plea, and we have answered it. We would now, in return, say that, if you can obtain a case of mind in the world apart from the use of the senses, and, consequently apart from the representations which come from the external world through the gateways of sense, we shall give up our case. If such an instance cannot be found: if it be proved that we are dependent on the outward organs of sense for the impressions of sense, we go thus far to prove that there are no such things as innate ideas, in that every idea said to be innate can be shown to be derived from an idea of sense.

What then is the conclusion we come to on this point? *First*—We say, Suppose we could do nothing to explain the Berkeleyan difficulty, we yet stand upon a line and on a level with Berkeley himself; for he leaves the question of the origin of ideas in the profoundest mystery. *Second*—We shew that the very grounds on which Berkeley formed his conclusions are utterly erroneous; and hence the conclusions themselves must needs be erroneous. *Third*—He *forestalls* the whole subject when he affirms innate ideas: *i.e.*, that ideas can be begotten apart from, and irrespective of, the external world. We forestall nothing. This pre-occupancy of mind with all ideas (a gratuitous *a priori* assumption) gets him into the mess which constitutes a grand difficulty—the doctrine of "a two-fold existence of the objects of sense, the one *intelligible* in the mind, and the

other *real* without the mind."* This, he tells us, has led into many dangerous errors. In short, he regards it as the root of *scepticism*, in as far as man could not know that the things perceived by the mind are conformable to those outside of the mind. Whose, we ask, is the blame? We repudiate "a two-fold existence of the objects of sense," as much as Berkeley can do. While we hold that the ideas of sense are the quarry out of which all ideas of imagination are dug, we deny that there are any innate ideas of sense; we hold that mind is primarily as a *tabula rasa*, or prepared white sheet to be written upon, and that the senses are but the medium through which the written characters are conveyed to this provided tablet. Hence the correlation of mind with matter; hence the entire agreement of our intelligence with our experience: hence a perfect harmony of thought and of feeling as between the conditions of our living bodily framework (the ground of our sensational nature), and the application of ideas thereto from the external world: hence also the training to which we are subjected by our experiences as correspondingly inspiriting us: hence the modifications which are wrought upon us according to the special training to which we may be subjected: hence, in fine, the benefit and the blessing of a true discipline, so as to be in harmony with God.

We strongly suspect then that the argument *quâ* Scepticism lies altogether in the contrary direction, that it reverts wholly against Berkeley and his supporters; and if we wish for an illustration, may we not adopt the motto, "*Si monumentum requiris circumspice?*" This world has had full and fair trial of the Berkeleyan dogma. Philosophers of highest name have given way to it. Germany has been full of it. Scotland has been full of it. England has never been free of it. Though philosophers, exhibiting that practical contradiction, which is a not unfrequent compromise, when men are in a dilemma, in that

* This is the mess into which mental philosophy has been brought by the misunderstanding of matter on the one hand, and of spirit on the other, and by the failure to see the relationship in which they stand to each other, and under which they mutually function; and never will philosophy be in a condition to give forth a scientific utterance till it is freed from the assumptions whereby it is so much fettered, when it will be found that the establishment of conditions is the foundation of Law.

they have held the doctrine of innate ideas, at the same time they have believed in the reality of an external world, which latter, men have never been able to give up, and never can by possibility give up, because the idea of it is the first and deepest conviction of their minds,—what do we find? Scepticism to a large extent over the face of the educated world! We charge this Scepticism on the Cartesian, and Berkeleyan, and Kantian, and Hamiltonian, and Hegelian philosophy. * For whatever deviations prevail among them, "the root of Scepticism" is among them all, through the dogma of an inherent or innate idealism. By this philosophy, nature, as an external process, is logically banished from the arena of being, and a system of chimerical ideas is substituted for it. By this philosophy, no real distinction exists between perception and imagination; for the ideas of sense, as well as the ideas of abstraction, are confounded, as equally the creation of the mind, and (may we not add?) as

* Des Cartes started with *self-consciousness* as his foundation, forgetting to inquire how said self-consciousness was itself begotten. Berkeley affirmed that we are conscious only of one set of objects, and that these are the ideas impinged on our minds by the Creator, the Guide of our life. Hume, upon the same principle that Berkeley destroyed matter, annihilated mind. Reid denied the existence of aught to link mind to matter, and could only give forth the views of what he called "common sense," without at all explaining the grounds of its conclusions. Leibnitz denied a direct knowledge of the world, and assumed a pre-established harmony, and so supposed that external things corresponded with internal thoughts. Kant, by his system, had no help but to assume *a priori* ideas, but it was a sort of half-and-half system, for he demanded the pabulum of the external world to fill up the forms in the mind; but he could give no assurance of externality, because, resolving all to lie within the categories of Space and Time, he placed these categories exclusively in the mind. Hamilton, for the most part, held the views of Kant, and compromised the question of an external world, and of things in themselves by a sort of heterogeneous mixture or fusion of primary qualities as objective, and of secundo qualities as subjective, thus confounding the world without and the mind within. Hegel, who resolved the essence of things into the co-existence of two opposites, gave forth mind which he held to be immediately certain of its own subsistence, as still involved in the contradiction of existence, being on the one hand independent in itself, yet on the other hand necessarily related to the "without." Since his day we have had numbers rising up affirming that absolutely and fundamentally there are but two opposite forces, Attraction and Repulsion, and that out of these all nature has its validity asserted!

equally the annihilation of mind; for things are every moment created and annihilated. By this philosophy, all natural causes are set aside, and hence, too, must be set aside as chimerical, all attempts to pursue effects to their causes, in as far as all causality is by an *a priori* dictum placed in the operation of the intellectual spirit alone, of which no one can, in the circumstances, give any account whatever. By this philosophy, not only is a bar raised up to prevent all inquiry, and to pall all effort, but its direct tendency is to destroy the universal conviction of mankind, and to break down the universal consent of mankind, in favour of matter. By this philosophy, the order and design and beauty of the universe, as the creation of God, apart from the creation of man, is utterly ignored, or, rather, is thrust into the narrow category of mere mental states, which mental states are made to be the *direct actings of a Supreme mind*; and if so, oblige us to resign all responsibility; and not only this, but to ascribe all evil as well as all good to God. By this philosophy, *existence* and *thought* are made synonymous terms, and we cannot wonder that Hume, with a logic which it is impossible to resist, should make Berkeley hereby proclaim that there is no God; for the self-same principles which made Berkeley disclaim the sensible image as the assurance of the external object, must also make him equally disclaim the representation of God as an intimation of his existence: hence the casting away of every principle: hence the logical outcome of complete scepticism!

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